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Sonoma County
Oral History Series

Robert L. Sisson
County Director
and
Viticulture Farm Advisor
Emeritus
1950-1985

Interviewed by
Joyce Griffin



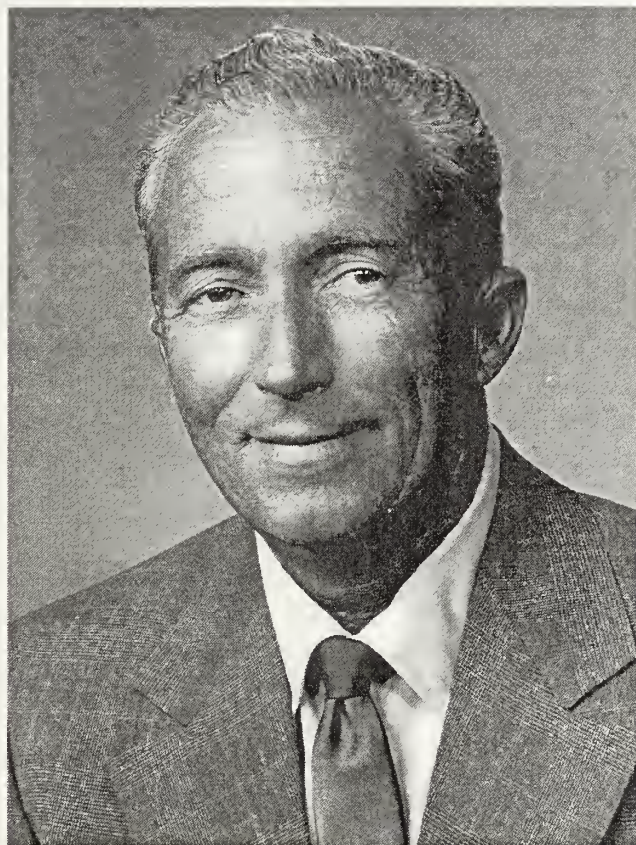
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ROBERT L. SISSON : COUNTY
DIRECTOR AND VITICULTURE
[2003]

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September 28, 1999

Audio and Video Taping by Anna Darden

and February 5, 2003

by Bo Simons, Wine Librarian at Sonoma County Wine Library

Healdsburg, CA

Introduction

Newly graduated in 1950 from the University of California in Berkeley, Bob Sisson was assigned to the UC-Sonoma County Farm Advisors office in Santa Rosa.

Little did this World War Two veteran know that he was entering a half century of swift and impressive evolution in California's wine industry. Nor did he know that he would play a central role in the changes that would sweep through the vineyards and wineries of Sonoma County...and beyond.

For example, contrast the price of red grapes in his first years in Sonoma County, \$40 a ton, with the 2001 price for Cabernet Sauvignon, \$2,000 and more a ton; for whites, \$37.50 a ton compared with 2001's \$1,900 and more for Chardonnay.

In the early 1950's Cabernet and Chardonnay were not even listed in the county's annual report of crops. Look at what were listed: Alicante Bouschet, Burger, Carignane, Golden Chasselas, Petite Sirah and Zinfandel!

In the 1950's wine grape acreage dropped from 16,050 to 11,229. Bob must have wondered whether he had been assigned to a dying industry. And, of course, prunes were the big crop with 18,640 acres. When Bob retired wine grape acreage had tripled and in the year 2000 it was 52,000 and increasing.

Statistics and varietals were not the only revolutionary changes in this half century. Wine grape farming methods reaching back hundreds of years were transformed by major changes in rootstocks and clones, pruning theories and planting densities, irrigation and trellising, chemicals and mechanical harvesters. They have remade the viticultural landscape of Sonoma County.

Such thorough and startling transformation was prompted in no small part by Bob as the man in the field for the University. UC's research at Berkeley, Davis and Riverside and its testing of new ideas in the Field Stations and the vineyards of more venturesome farmers excited Bob who became an evangelist for change. Suggesting new ideas to replace traditional farming was heavy going, and Bob learned to combine diplomacy, persistence and news of the success of the new ways. So excited was Bob that many of us remember him talking our ears off with a flood of ideas and information backed by University research and his own encyclopedic knowledge of Sonoma County vineyards.

This oral history by the Sonoma County Wine Library captures the spirit of a unique era in the Wine Country. And of a unique man who led the charge of change in Sonoma County's agricultural community, dedicating a half century of highly productive life to the revolution in the vineyards.

Robert A. Young and Richard P. Hafner, Jr.
Alexander Valley, May 2002

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Transcription by Gail K. Ryan, Healdsburg October 1999

Joyce Griffin: I am Joyce Griffin, Anna Darden and I are interviewing Bob Sisson for the Sonoma County Wine Library. Today is September 28, 1999.

We would like to get your personal information, your family history, where you were born, your siblings.

Robert Sisson: Actually the family are Northern Californians. My father, all of his brothers and his one sister all went to Cal (University of California). I have an old yearbook that has them listed. My daughter, Sue Anne, is an Old Blue with three degrees of her own, from UC Berkeley. On top of that there was a time when I thought that if I could ever get to be governor I would change the name of Mount Shasta City back to the name of Sisson, which was what it was to begin with. Because my

great-great uncle or whatever line it comes down through was a lumber baron up there in that corner of the state. The place burned down and they renamed it. But there is still a bridge between Mount Shasta City and Weed that is Sisson's Pass to this day. So that is where the family is Northern California oriented. My father was recruited, I guess you might put it, from Berkeley High where he was going to school up to Cal by Andy Smith. If that means anything to you.

Griffin: Who was Andy Smith?

Sisson: He was one of the most outstanding football coaches of his era. We were undefeated for years. And it was quite a deal. Then World War I came along, and my dad went in, of course, he was in ROTC. He didn't come back to school, he went to Southern California. And that's where things start as far as I'm concerned.

Griffin: So you were born down there.

Sisson: Yeah. He got out in '19, I suppose like everyone else did, and I was born in '23. I was going to resist admitting that. All I'll admit is that I'm not 20 anymore, I can't get away with fooling myself on that one.

Griffin: In what town were you born?

Sisson: As far as I know it just says L.A., it could have been Glendale it could have been anywhere (in that area). He spent most of his time in Glendale until he and my stepmother moved out to the middle of the desert.

We had an interesting thing. People have a lot of different opinions about broken families. For me, I wound up with two sets of parents that were both great. It couldn't have been any better as far as I'm concerned. My stepmother was a superintendent of nurses and she was one of the most highly regarded people you

would ever want to meet. Just a great person. And my stepfather was an old Indiana boy, that was in the trenches in France in World War I. He wound up during the Depression being on the Beverly Hills Fire Department. So we lived in and out of Beverly Hills on that side of the fence as I lived with my mother.

Griffin: Were you an only child Bob?

Sisson: No, I have a sister. She lives over in—she would be happy to be here today—Bullhead City. The point where Arizona, Nevada and California darn near come together. A normal day over there this time of year over is about 116°.

Griffin: She likes hot weather.

Sisson: I don't know whether she likes it or not, it's something she doesn't seem to have any trouble with.

I told her once that I disowned her because her daughter's brood, of which there are quite a few— I don't even know all their names, one of them was about to do something and that would make her a great-grandmother. And I said, "That I'm not old enough to be related to anybody's great-grandmother, so you just can't pull that."

Griffin: Is she a big sister or a little sister?

Sisson: Oh, she is seven or eight years younger than I am.

I remember in all my clairvoyance, she had a friend that she was playing in the backyard with, at seven or eight years. When you are a big hot shot teenager, they are all little kids. Some kid by the name of Elizabeth Taylor, I think it was, little did I know then. That didn't last long. She got into that *National Velvet* movie thing and that was when her mother dragged her off. They weren't allowed

anymore play time in the backyard. That was how it went down there. And I went to school all over the place. Which was good. I must have gone to seven or eight different grammar schools because the City of Beverly Hills alternately insisted on all their employees living in town, for us this was on the wrong side of the tracks in Beverly Hills incidentally. Every time they would relax the requirements why we would move on out of there to someplace else, to West L.A. mostly. So I was always changing schools. It kind of conditions you to get acquainted with people real quick and make a lot of friends. And that was fine, I didn't mind that. When I got into high school I had an interesting experience. I've always been this way I guess, I'm always either the first or the last. When I graduated from grammar school, sixth grade, we went straight into high school, seventh grade, in West Los Angeles. Then they came in with the middle schools, junior highs are what they were up until recently. Every time I would go up a grade, they would cut it off. By the ninth grade there wasn't any seventh or eighth grades they were all over at the other schools. It was an interesting experience being the last. Then we had to go back into Beverly Hills and I went to school there, which was murder really. Because Beverly High was one of the most highly rated high schools in the country. I understand that there was one back in Ohio that maybe rivaled it. But it was only in recent times that I got to thinking about what was actually going on, I didn't pay any attention at the time. Most of our teachers were Ph.D's. And you don't find high schools stocked with Ph.D's that much. But then it was during the Depression and you took a job wherever you could get it. I remember Dr. Morrison, Dr. oh, good lord, I had forgotten that we called most of them Doctor Something and that was the way it was. It was a tough school. And it paid off later because it made it a lot easier when you got into the areas of higher learning. That was my growing up. It was winter of '41 when I graduated. Things happened on a large scale not too long after that. And so I spent about three years in the military on active duty in not the Air Force, it was the Army Air Force. In some cases it was still the Army Air Corps. When I got to the point I thought that I was going overseas on an occupation job, someone came in the orderly room and wanted to

know if any of us wanted to join the reserves. Well, I had gone from being an enlisted man and a gunner on B-24s to a commissioned navigator and a few other things. I said, "Yeah, I don't care to go through this again. I'm going to be a reservist." And in effect still am, now retired from the Air Force, as well as, the University of California and I spent thirty years doing that. In fact that newspaper thing I gave you to read made mention of it, why I mentioned it I haven't the vaguest idea but I did. I was the civil defense liaison officer for 4th Air Force, US 6th Army and State Military Command. That was a great job. I was responsible for every base and station, 21 of them, we had in the state to have them understand that they had an obligation to provide some assistance to civilian authority for civil defense. This was back when the Cold War was still rather a serious matter. It was an interesting job because I made it a point to visit every one of those bases and talk with the disaster preparedness officers and what have you. That was fun. We had a squadron here in Sonoma County before that, back in the 60's, when that Cuba thing came along. We built a base from scratch. Our squadron went over to Beale Air Force Base came back with two or three Quonset huts that we took apart and rebuilt. Borrowed all the stuff from Hamilton AFB built the base right on the county airport. I talked the supervisors into letting us do it. The aerial forest fire people are still using some of that stuff.

Griffin: Do you remember what year that was?

Sisson: It would be about '62, somewhere in that range, because Defense Secretary McNamara didn't let us stay very long. Good old McNamara. These were recovery squadrons, our job was to have a place where people that were in trouble could land, and provide medical and everything else they needed. There were a lot of things that weren't built into the program, so I simply rearranged it to how I thought it should be, including a meteorology briefing and everything else necessary to get them back to where they came from.

Griffin: Were you Farm Adviser then?

Sisson: Yeah.

Griffin: What year did you become Farm Adviser?

Sisson: Actually by title '53. My beginnings here were in '50. I'd graduated from Cal and wound up going clear to L.A. and a week later UC Berkeley called me and asked me if I would like to take this research job in Sonoma County, so that's how that worked.

The grape plantings in the state, have been around a long time, the first thing I have any notes on were the plantings at the San Diego Mission that the fathers planted in about 1770. And the first private planting was in L.A in about 1824, and mostly it was situated around Anaheim where Disneyland is now. And that Anaheim thing is an interesting point of reference, too. There is one disease that still haunts us and it scares a lot of people, and they should be. It was originally known as California Vine Disease. Then it became known as Anaheim Disease. Then Dr. Pierce began working on it and it became known as Pierce's Disease.

Griffin: Now, we just call it PD.

Sisson: Pierce has become a forever famous person by being stuck with what was believed to be the only virus of grapevines known in the state or anywhere else for that matter. Along the way I'm having a little trouble filling in when I left active duty in '85 and now. It wasn't that long ago, but it was probably more like 30 years ago when someone suddenly realized that all of the specimens that had anything to do with PD, and these were slides and stuff that had been made, they never could transmit it as a virus if we were using it as propagating material. All the other viruses we now know came from using diseased scions. As it turns out

there was always something else on the slides then besides what they thought was the virus and it was a bacteria, *xylella fastidiosa*. That was the cause of Pierce's Disease, not a virus. I'll get into some of these other things as we go a little further.

The thing that I am amused by is that as recently as last Sunday *The Press Democrat* the Ag editor, Tim Tesconi, once upon a time when he was younger he was Ag editor but now he has kind of drifted off into other matters, made the statement that the first planting in Sonoma was at the Sonoma Mission by the fathers. Tim was quite mistaken. The first planting in Sonoma County was made by the Russians at Fort Ross. I don't know the dates of Fort Ross, but I have a feeling that if they were going to plant something like a grapevine, it would go in the ground quite rapidly after they made landfall. So whenever Fort Ross was created, I think that was when the first planting was made. That was the way this thing went.

Our industry more or less started with Count Haraszthy and the establishment of Buena Vista. He was commissioned by the state horticulture society or viticultural society, or something of that nature, to go to France and select all the best vines that he could find. And he did.

Anna Darden: 1852 about?

Sisson: Well, it would have to be somewhere in that range, Anna, 1861 is what I have a note on. That is when he went over. And that was the beginning of the real Sonoma County plantings. The old literature that I have encountered over the years gives me two acreage figures for Sonoma County, and you can take your pick. I have seen 42,500 a number of times and I have also seen 60,000 acres a couple times. So it could have been either one, I'm not so sure that they were all that careful about measuring just to know how much there was. There were a lot

of grapes, nearly all on hillsides from Sonoma to Cloverdale. And they all went out in 1878 with the first phyloxera infestation. It just cleaned the place out. I have had occasion to mention if you go up in today's world up to the Shepherd place, a descendant of Jack London's out of Glen Ellen, and in that back country brush there are a few grapevines still kicking around. They have the capacity for very long lives given a chance. In fact, I had an occasion when I was first on the job as a rookie of meeting someone, and I couldn't locate this today to save me as to where it was, in Alexander Valley. There was a block of mission grapevines that they told me were a 100 years old then. And they were still kicking out eight tons to the acre.

Griffin: This is different from the wild grape?

Sisson: Oh, these were Europeans that were brought in. The missions were the ones that the Franciscan fathers planted. They were kind of a nondescript variety, but nevertheless they grew and were used to make their sacramental wines. And everything was fine.

And we have had ups and downs across the board. In 1919, Prohibition came along and that kind of raised the dickens with them. Then, World War II had a marked impact on viticultural activities in Sonoma County. A lot of the major hard booze outfits came tearing out here and bought all they could get. National Distillers owned Italian Swiss Colony, W.A. Taylor had what is now Elmo Martini's place, but he got it back from them. They were using it for alcohol, they didn't give a darn about wine.

Darden: So they just distilled the wine?

Sisson: Yeah, but the minute the war was over they couldn't get out of here fast enough. Which I have laughed about many, many times, because National Distillers had

the biggest facility we had in that time frame in the country and they dumped it. After we got things going the way I thought might be a better way of doing it with the premiums, they couldn't get back here fast enough. And they bought—I'm not sure if I can remember the name of the outfit down there in Monterey County—Almaden—they bought a going winery and went right back in it—after they ran the first time. The rest of them are in this in some way, somewhere. That is the story of the early days with the grapes in the state and in the county as I see it.

And then there is me. That starts in with 1950. By that time we were down to about 20,000 acres. In 1953, I have some of the old ag commissioner's reports, we were down to about 11,700 and by the time anyone even thought about turning anything around we were down to almost 9,000. In fact, my livestock partner on staff used to just needle the heck out of me about pulling all those darn grapes out and putting in sheep pasture. It was happening. It is in reverse these days.

Griffin: What is our acreage today, to compare?

Sisson: I'm not sure, when I left we were right up to about 33,000. The last time I saw any figures somebody had us over 40 and pushing 45,000. [This interview was taped in 1999. As of 2002 California Grape Acreage has the figure of 57,572 acres of both bearing and non-bearing grapevines all of which are premium varieties.] Where we are is hard to say, I hate to think that I helped create a Frankenstein's monster here, but the thing that disturbs me to no end are those people that are urban outsiders who have come up here and all of a sudden their opinion is something that everyone is going to hear and they just decry monoculture. As if 40-50,000 acres of grapes is monoculture in a county that has a million acres, most of which is in livestock. It is too bad, but they are drawn to that kind of attention-getting (for them) to make some kind of outlandish statement.

Anyway, the reason that came up was not the business of phylloxera and then Prohibition and then the war and all of these impacted the price. Louie Foppiano, Sr. and I were at a meeting a number of years ago. And Louie and I were laughing, that he could remember paying \$18 a ton for the grapes that he was buying. What period that was I'm not absolutely sure. But in my own files I have cost studies that go back to '53 and we were actually getting \$37.50 for whites and 40 bucks for reds. And boy, that was a good price. But it was a comedown from what they got during the war, about \$120 a ton.

Darden: For distilling material.

Sisson: Yeah, and they didn't care what it was. That it was grapes, something they could make alcohol out of. And when the war was over the price went on its nose, and everybody was negative, you can't believe how negative they were. They were all ready to quit. I said, "You guys are maybe on the verge of making a hell of a mistake."

This was where I started in. The reason I came up was because of this bud mite thing: Eriophyes vitis the erinreum mite of grapes, was another scourge, a threat statewide, they were estimating that there would be a ten million dollar loss, which was a considerable amount of money back in '50. It had been thoroughly researched. My old boss found something and he started the project on it in '37. The University has several different levels of publications, Hilgardia is the top one. Two Hilgardias were written by our entomological team that was on this. There were three of them from University of California Davis and one from UC Berkeley. They had it all figured, "This was what was doing it. This is what the symptoms are." All I was supposed to do to was to come up and find a way to control it. There wasn't any doubt about what it was doing and where it was going. My job was to find a control. And that's what I started doing. I was actually on the county payroll for the first couple of years. Farm Advisers were not

permitted to call their field work research. We had some on campus resident faculty that didn't like some of these guys outside calling what they were doing research. As a county research assistant I called anything that I was doing research. Which is what is says right here. And we let it go at that. And it started some interesting chains of events. I was called back to active duty when Korea broke. I had to go before a board of colonels and explain why I should not be exempted. I said, "I don't even know if I am going to have a job come July." Because the thing was year by year, and I didn't know how long the county was going to be willing to go along with this. So they cut active duty orders and then UC Berkeley suddenly made a move, and one of our top regional directors, who later became my boss, came up and asked if I had any objection if they went over and talked to the commanding general to see if I could stay right where I was. They didn't want that research program interfered with. I said that I would do whatever was in the best interest.

Darden: Was that Cal?

Sisson: Sure, our people were known as Agricultural Extension, it had always been that way. Cooperative Extension was the official federal title of the Smith Lever Act that established the activity. But we were California, and we did it our way and we were Ag Extension. So Tip came up, J. E. Tippet was quite a guy and the next thing I knew I got a telegram, "Disregard the orders." It was really a concern, about this bud mite thing. I had been at it for about two years at that point, and I went out and spent more time on the microscopes and binocular-scopes looking at those mites. They would infest the bud something terrible. Maybe several hundred, maybe a thousand in one bud. A grape bud is like an artichoke, each bract is like you peel an artichoke to eat it. They were in there. This is the Erineum mite, and was also being called the bud mite. If people don't do any protective work for their vineyards, the Erineum mite can get out on the leaves and cause Erinea polyps and they look kind of ugly. I don't know that they do any

serious damage, but they are not anything that you would like to have happen. The further I went, the more I began to wonder if that mite really had anything to do with this problem. And one of our entomologists out of UC Riverside was alerted to the whole thing by one of our Farm Advisers in San Bernadino County in Cucamonga. And he was looking at some vines down there; the variety was the Mataro.

Darden: They still are, we call it Mourvedre today. Sounds fancier.

Sisson: Oh, yeah. Everything's still grown if you want to look enough.

Now, we are going to preserve two of the old ones for I don't know how long, the Alicante Bouschet and the Grand noir. They are both red juice grapes. The Harvest Fair is going to keep those growing if it is the last thing they do. Because they can't have a good grape stomp without having red juice flying every place. Actually the red juice variety these days is the Salvador, that's a valley grape, a hot country grape, but it is also a red juice grape. This whole matter of the juice is an interesting misconception or lack of knowledge by the rest of the world except for the growers. And I'm not so sure all of them are aware of it, but the vintners sure are. A lot of grapes that are made into champagne are Pinot noir. That's burgundy if you let them go and leave them on the skins. You can use dark skinned grapes for no color, too. The growers up in the Sierra foothills have been doing this with Zinfandels. They put that white Zinfandel out to take advantage of this flash white domination thing.

When Dr. Marin Barnes started working on that bunch of Mataros down there in Cucamonga he found all the symptoms that had been described, just as I was finding them here, there and all over the county. But never for sure associated with the mite. And in his case there weren't any mites. When he did that, he and I were in communication. So I said, "Well I've got a lead." One of my growers one

year couldn't get all his pruning done by the normal time of say the end of January or something like that. He wound up doing it very late, clear into the end of April to get the job finished. And all of the stuff that he pruned late was totally free of the symptoms. Well, we had to take a hard look at this. Barnes immediately set up a six month time of pruning study— November, December, January, February, March and April. Which I replicated here. This is an interesting point. Any research that we do, away from University owned property like the Oakville vineyards in Napa County, which belongs to the University. It was an old USDA field station at one time. Anyway, it is entirely based on you folks as growers becoming cooperators and taking your chances on us wrecking your vines. But I never really had any problem with that, because most of the guys were more than willing to be a part of the research and that is the way this went. And that was the way it was going when I was down at the Kunde place. That was one of those things where being good is nice, but being lucky doesn't hurt. They had three blocks of grapes in from Highway 12. That was an incredible thing. I couldn't have designed a location any better, deliberately. The first block was all Mataros. The second block was half Mataro and half Carignane which was the one showing the worst symptoms up here. The third one was all Carignanes. I don't know why Art Kunde, Big Boy, planted them that way, but I didn't care. I dived in. In the meanwhile I had been talking to Professor A. J. Winkler about this whole project from day one. And Winkler wouldn't have anything to do with it the first couple of years. He had been completely taken in tow by the high powered publications of the entomologists and that stuff. He wouldn't have it. He said, "This is an entomological problem." After that first and second and third year, I went back and said, "We are going to have a long talk. We are looking at something here that may not have anything to do with that mite. It is entirely possible that there are other things that are causing this problem that haven't even been examined yet." So then he decided he was going to get into the act. He came over and we started working together. Which was all to my good for sure, and maybe a lot of other people in the long run. That's when we really got into this together. The stuff that

I was working with kept defying old conventional wisdom and it was bothering him. Some of these beliefs go back for virtually centuries. One of them was that it doesn't make any difference what time during the dormant season you prune a grapevine. It is going to behave the same, as long as the leaves have fallen and the vine is out of commission and dormant, until you get so much growth that you don't dare wait any longer. You can have terminal growth out on the canes, that's okay. But that didn't mean anything as long as they got pruned sometime. But yet what both Barnes and I were finding out was, there was a clear-cut difference in the vines' behavior when they were pruned, in his case, November and April were pretty much the same, December and March were pretty much the same, and February was so-so. And we both found out January was the worst month you could pick to prune, because that was when the symptoms showed the strongest. The least symptoms were late March and April. And that wasn't supposed to happen. So, Winkler got very interested in that. And I went even further to see if there was any way this discovery had some application because all of the chemical trials I had run had been unsuccessful. We had acaricides on the shelf that were very good and quite capable of killing the mite, but you couldn't get them to the mite. You had to use a wetting agent to get anything inside that bud and the wetting agent killed the bud. So much for the chemical approach. So, I thought maybe we can do something this way. Obviously nobody with any size of a planting is going to be able to wait to do all of their pruning in that period of February and maybe March and a few weeks of April. It just isn't going to happen. So I had to find out whether or not there was some way that this could be done partially. This went back to something that I had run onto. I started in testing to see if there was some way we could partially prune the vine in January and then finish it later. And I worked that down, I wanted to find out how much more cane had to be left beyond the buds that you wanted to save for the reaction to take place. So I started in, saying okay this is going to be a two bud spur, this is going to be three bud spur. I'll leave just a piece of wood, I'll leave one extra bud, two extra buds, three. I went out to four, half a cane, and the whole thing. And I found

out that leaving one, two, and three buds and the piece of bare wood did absolutely nothing. They behaved as if they had been pruned completely in January. But when we got to four extra buds, then when you took that piece off in April the vine acted like it had been totally pruned in April. Just bang, just like somebody had thrown a switch. I found out there was a break point in February. February the 15th to be precise. Where if you prune after that date you got the late season effect and prior to that date you got the mid-winter effect. And don't ask me to explain it. Because nobody can. It is just one of those things that we don't have an answer for. Some weird thing. The only thing unique about the 15th of February is the length of day. That's a constant, everything else is a variable, the weather, anything that you want to name. It is the way it works. The rationale that I was after was that you could put experienced pruners in anytime, December, January anytime, I don't care when, and have them leave four buds more than they ultimately were to wind up with. And then you could hire anybody that can use a pair of shears and you could tell them to go in there and cut four buds off. You can practically run and do that. It is the way it went. And it never did get put into practice to any real serious extent. Some other things (came out) at the same time, there was a delay factor that was introduced in the budding out after the 15th of February. Maybe as much as ten days to two weeks difference in the budding out between the January pruned stuff and the late March-April pruned stuff and that was used by the growers for frost protection. They bought that right now, "We'll use it for frost protection and if it does some other good, that's nice too." And then we found out that there was an increase in crop on the late pruned stuff over the mid-winter pruned stuff. No more clusters, maybe better filled clusters, I don't know what. It was all stuff that Winkler just shook his head time and time again and said, "This just can't be happening." And yet it was. That's how we got to the point where we were. In the course of having Dr. Winkler over here for so long, we went at this for pretty near five years, I had the equivalent of three or four semesters of advanced viticulture with him as my personal tutor. I had more of his time and wisdom, a Ph.D's worth at least, than anyone who was a regular student

ever had a chance to experience. That I appreciated greatly. He used to accuse me of vacuuming his head. Later when I went back to UC Berkeley for a master's degree, Professor Winkler ordered me to "don't even think about going for a Ph.D.; you don't need one." The one that really got him the worst was when I took several single vines and pruned half of them in quarters, one quarter in January, the next quarter in March, the next quarter in January, the next quarter in March. And we found out in a hurry that a vine does not act as a unit. It acts as an integrated system. Kind of like some of the stuff you see on *Star Trek*, where many inputs come from something and you end up with an end result. That wasn't supposed to happen. With those vines, the January pruned quarters were out two weeks before the others were. If you think that didn't shake Professor Winkler up! It was really amusing. Because all the old literature (said) it can't happen, but it did.

Darden: So this time of pruning business originally started because of the bud mite?

Sisson: This is what I was doing. I was using it because in that late pruned stuff the symptoms almost disappeared completely. Then, we found out in that middle block, where the Mataros and the Carignanes were touching together, the Carignanes could carry populations where there were five-six hundred and a thousand of these damn things per bract on the bud. The Mataros had none, a stray once in awhile would be over there. So, there were differences in their tastes, too. But they aren't the only creatures that are taste sensitive. I've found out over time that other species of mites, like the Pacific mite and the Williamette mite are the ones you have to be very careful of because they can practically defoliate a vine if you don't do something, and are attracted to Zinfandels. They are a prime target, other varieties, not so much.

Darden: They have good taste.

Sisson: I have seen cases going back to those early days, and I didn't mention that most everything that was in the ground were standard varieties. I don't call the Zinfandel a standard, I call it a medium premium. That's my own definition. The term mid level premium wasn't being used either. It was something I shifted over to use to describe what I wanted the growers to start thinking about. Growing the world class varieties.

There was an absence of premiums, we only had three plantings. Only one had an active winery. That was Frank Bartholomew's Buena Vista that he had taken over. That was Haraszthy's original place. He had Gewürztraminers, he had Cabernets, he had several other premium varieties. If you look at these old ag reports. I had a long drawn out difference of opinion with the Ag Commissioner, who is a good friend of mine, he didn't want to put down all the names and I said, "You got to. I want people to know what is happening here." If you look at the really elderly ones, (looking through pile) crop reports, I'll see if I can find one.

Darden: So, he didn't call it Cabernet, he just called it reds and whites in those days.

Sisson: Well, basically that was it. But they would run a list that displayed mostly jug wine varieties.. And the list that I'm thinking of I was looking at to review myself just yesterday or the day before. There were no Cabernets, well, there were, 35 acres, I think that they were all Louie Martini's. There were the other two plantings, one was his up on Monte Rosso, the Goldstein ranch. The third one was Fountaingrove. Which still had a planting at that time that was being taken care of by a chap whose name was George Kay.

Darden: This was in the 50's?

Sisson: Yes, this was in the 50's in the very beginning. I got to know Kay quite well, he was very proud of that planting. He was turning out premium stuff. The

Fountaingrove label was well thought of prior to its decline. Then the place was taken over by a guy that wanted to run Herefords.

Darden: I thought the Japanese Prince liked having cattle on it, also.

Sisson: I'm not saying that there weren't cattle on it. The planting wasn't very big. But this guy Siegmond Bechold came along and bought the whole thing. I think that Bob Walter bought it from him. And his whole thing was strictly cowboy, from day one.

Darden: Well, Walter was a horseman.

Sisson: Bechold was more cowboy than anything else.

I got started in the course of looking for these research locations where we could run trials and I saw just about everything that was happening. One of the things that really bothered me was that the vines were being grown right on the ground. Virtually you didn't have even have a foot clearance from the lower part of the head to the ground. That was not what we were after. So one of the first things that I ended up doing—they didn't use stakes, maybe they had some pickets in the ground two-three feet high. They couldn't use most row plows, they were cross-cultivating. Every vineyard you looked at, this is another observation, they were all close planted, seven by seven or eight by eight. You couldn't get equipment in. They had to use specially designed tractors for any power equipment. You couldn't pull spray rigs, you couldn't use a duster. You wound up picking the fruit off the ground, just about. And a lot didn't get a clean pick because the pickers wouldn't get down there, when it was muddy particularly, and get those clusters that were down low. And all these things were giving me some cause for concern. One of the first things I was tasked to do was to find a row plow that would work under those conditions. We had lots of row plows but they were either pneumatic

or hydraulic and they were designed for vines that were headed up here around 30 inches or so high and they had a lot of trunk, so the activating lever had something to hit. You couldn't use them on our stuff. The things went right over the top of them. I finally found one in the valley that was spring loaded to stay in a working position. And it would activate about 6 inches high off the ground. It was the Likem plow. We had a lot of them around here. The guys thought that was great, get rid of those disc blocks. They had to go in and practically hand weed those blocks. I don't think that there was anybody who was growing grapes in those days that didn't have a bad back. Because they were all having to do everything bent over. I don't care if it was pruning or picking or what. It was bend over all the time. And as I said we couldn't accommodate commercial pest control rigs.

And then we get into this matter of the mildew, what we call mildew, odium in Europe. Their mildew is mostly downy mildew which we have, too, it gets on roses. We had a strain that was hop mildew, that was downy. Fortunately, we never have had downy get involved with the grapes, because it takes summer rainfall really to flare it up. What we call powdery mildew they call odium. Our people had the interesting idea that what they wanted was to buy the heaviest sulfur that they could get. Something that stunk to high heaven on a day like this, it would be just wonderful for them. You could smell one of those vineyards about a mile and a half away. They believed it was the fumes that were giving them the prevention, that was controlling the mildew. So I had the dubious job of stepping on another one of the old (myths). This went on and on and on. You don't suddenly just show up and start saying, "Hey, you're doing this all wrong." It is not the way you do it. You try to discuss it intelligently and be friendly. One of my top growers out in the Olivet flat west of Santa Rosa, he and I were talking one day under his trellis about the height of the vines. I said, "Why can't we get these things up in the air where they belong? Where you can do something to them." "Oh, the trunks wouldn't be able to handle the weight." And we were standing under his trellis with four vines with trunks about 5 inches in diameter.

And I said, “How do you account for these?” And he looked at them a minute and he said, “Maybe you have a point.” That’s how you kind of slide it in, gently. It wasn’t too hard to get people to pay attention.

I had a call one morning from half way around the planet, Jordan actually, requesting help with developing a mildew (Odium) prevention program. You never know.

That’s where we were at that point in time, and this was mostly height off the ground. Another thing I saw in great abundance was this close space business.

End of Tape One Side One

Darden: You were talking about vine head height.

Sisson: The next thing that was of most concern to me was this matter of spacing. At the time that all this was happening, we were still in the bud mite project. Dr. Winkler was also running some vine spacing trials over at the Oakville vineyard, 8 by 12 was what we were trying to get around to. He figured that was the one that was about right. I said, “Let’s find out what happens if we open some of these old ones up.” You take your cooperators right to the edge of the envelope. I wanted to go in and take out every other row on a diagonal, in a chunk, a pretty good-sized chunk. And there were two or three of them that were perfectly willing to do that. To find out if the opening up of the area would increase the water supply and the vines would make up the difference. In three years... I think that you have a copy of this yield and quality response paper. In three years the trial vines were putting out as much production as the old unchanged 7 by 7’s. And we did the same thing with 8 by 8’s and had the same results. Between Winkler’s work starting from scratch and from what I did, we pretty well made our point. Open the things up so that we could get at them to do whatever had to be done.

Darden : When you did that, did you add trellis then?

Sisson: No. These were just left alone, they were right down on the ground, but at least you could get at them. The real problem of being on the ground *and* close spaced is that you couldn't spray for spider mites or something like that.

Darden: So by close spaced you mean 8 by 8 or 7 by 7?

Sisson: You couldn't get through with a spray rig.

Now, Professor (Lloyd) Lider, who worked a lot with rootstocks, and was one of Winkler's ace staff members, and I went into a trial. I'll back up a minute. Winkler had an approach that is in a 7 by 7's planting, when you have one vine that is missing, it is no miss. The surrounding vines will immediately pick up the difference. That's what led me to do this opening up thing to begin with. But the only thing that was necessary was that you didn't have the darn rootstock still growing. If it was broken off, too bad, the rootstock would take over and you would gain nothing. So Lider and I went out and started to see if we could find some chemical that we could put in a basin around the rootstock and knock it out. So, then rest of the vines could move in and take over. We found two or three things that would work, Vapam and other stuff.

Darden: This was before Round-up?

Sisson: Round-up was basically Johnson grass control. I was in Round-up up to my ears.

The next thing that I think is a matter of considerable importance was this matter of water. It was a very sticky wicket. The prevailing wisdom of this area was that all of the fruit grown in Sonoma County and the coast was of outstanding quality

because it was non-irrigated. Fruit grown in the San Joaquin was junk because it was irrigated. Oh, my word. We got going on this water thing. It was so bad that you didn't even say irrigation. I thought of more synonyms for irrigation than you have ever heard of— supplemental water, etc., but I finally settled on water management. That said nothing, but it said everything. And actually it is probably the best description, because if you are going to do it right, you are going to manage it carefully and you may be adding additional water in some form of irrigation but it is still being managed. You don't just fill up a valley type trench and let it run. We had to get this in hand. The thing was that the growers didn't understand that the vines didn't care where their water came from. And some of them, like your situation here, or Joe Rochioli's or go on down to Korbel, is that these alluvial soils along the river are so deep, that it just doesn't matter. I expect that we could go down to the bottom of the river, down 80 feet and it wouldn't change. They are all a homogenous type soil. A grape vine and a lot of other things, too, root to ten feet effectively. From ten feet in that zone it can extract the water to the permanent wilting percentage. And if you have the type of soil that you folks have and have ten feet of a Yolo series like this, it will hold the usual two inches of water to the foot that the plants can get. That is about half of the total water, you can cook out about another two inches in an oven, but we really don't care about that. It is the two inches that are available. Then you start understanding that not only is there soil there that can store twenty inches (of available water) in ten feet of depth, store twenty inches that the vines can get. But what they also didn't understand was that the climate gets into it and dictates how much water the vine needs to grow for the entire season to get as big as its genetics say it can get, and be as productive as good management says makes sense.

And I will make a comment about that. We had the situation over here at Fenton Acres, when Joe Rochioli, Sr. decided he wanted to grow grapes. I said, "Okay Joe get going." I said, "You are on such powerful soil." We knew what he had

been growing. He had been a hop man, then beans, and all that stuff. And he got going on it. I said, "I think we are going to have some awfully vigorous vines." He said, "What I want to do is to go bigger than your spacing, we will go 10 by 14." He planted the first eleven acres to Colombards, and you knew that they weren't called West's prolific for no reason. And I told Joe, "You know, this isn't going to work with regular spur pruning. We have to find some way to close this space up in the row." And so I said, "We will go to cordons." That was the first cordon planting. Louie Martini had a few that he had cordoned up on the hill, I wouldn't want to say that it was the only one. It's certainly not a new technique. It was the only one that got involved with my new move of getting converts into the act.

And that brings up my clientele. There were three, the regular old growers that had been going at it, like the Kundes. And many, many, many others. You've got neighbors around here that are really not part of today's world by their own choice. And then we had the converts who were a real pleasure to work with. People like Bob Young, Angelo Sangiacomo, Joe Rochioli, Ron and Henry Deck, and all the rest. They knew the ranch. They knew how to work the ground. They knew all they needed to know about the machinery. They understood all this stuff. All they needed was somebody to show them how to grow a grapevine. That was a piece of cake. And a pleasure, I assure you. And to get them started with the right variety in that right area. That was one of my major concerns. That's why I spent so much time working on research on the climate. I wanted to be sure that I could say, "If you put them here you are going to have a real problem if you are going to put in Cabernet." We, our group, have to take some responsibility, I think, for the Cabernets that got put in on the beach down in Monterey County. There was one UC leaflet that came out that I immediately tried to hide. I told my secretary, "I don't want anybody to have this." But Dick Hafner (Alexander Valley) swears to god he got his copy from me. "I don't think so. He could have gone down across the street and gotten it from University Hall." We had a place where you could go and get leaflets and publications in those days. They had some

terribly erroneous stuff in that leaflet about where something should go. And it was really scary.

Darden: You mean about what variety was suitable for what climate area?

Sisson: We are going to have to wait until we get to a spot here. I want to get into this particular thing about placement.

Darden: You were talking about your clients—the old guard, and then the converted...

Sisson: And the group from everywhere.

Darden: The third type, the doctors from San Francisco.

Sisson: The airline pilots, and the businessman and the doctors and on and on. One of the first ones of that bunch was Joe Swan out in the Piner flats.

Darden: That's a success story.

Sisson: And Joe was an airline pilot and he wanted to be a grape grower, and he did, out on Laguna Road.

And there were many like him, the Henry Triones for example, Henry is a story in his own right. Everybody knows who Henry is. The benefactor of the county. Well, Henry cornered me because Jim Keegan of Wells Fargo Bank was a buddy of Henry's and a good friend of mine. He said, "I want to talk to you about grapes. I think that maybe I might get interested." This was back in the days when we called the office the Dog Kennel, some temporary quarters down on Petaluma Hill Road.

Darden: Early 60's?

Sisson: Late 50's and it went up into 60, we moved in 60, I believe.

I said, "Fine Henry, we'll talk about it. I think that it is something that you would enjoy getting into. "Okay, I'll be in touch." A year went around and the same time the next year, he called me again and we had the same conversation. Once more the clock went around again and he still hadn't done anything. The third time, he said, "I mean it this time." I said, "When do you want to get together?" "We'll have lunch." We picked a day and then I went through this whole thing with him. "This is what it adds up to be. We are going to get into the premiums. Napa County is nothing special. We've got the same thing. You can do whatever you want." And you know where he went with it. He took off and bought Geyser Peak Winery and really did some good things. These were the type of people that I mean by my "they came from everywhere group". I had them call me from everywhere. There was one guy who owned Action Toys in New York, Mark Mictom (West Soda Rock Road, Alexander Valley).

Darden: I know that vineyard.

Sisson: It belonged to two brothers, they had an airstrip on the place. That was before Vad Jelton got the place. I can't be sure of the name of those two brothers but they were bachelors, they lived there and they had their airstrip and did whatever they did. Anyway, Jelton bought that and turned it over to his son and he finally sold it to Mictom and we got it into Chardonnay and everybody was happy. Jelton himself was an outsider. There is a guy just down the road on Chalk Hill Road from Honolulu, he would fly clear over just to talk. I met an incredible group of people. I may even make some mention of some of them in that report. That was the clientele, we had those three, and the only ones I had any qualms about were the old timers. I knew there were some that were not going to budge. Didn't want

anyone telling them to “Get their vines up waist high and put them on wire.” They weren’t going to do it. This was my goal, to have this place be equal to Napa County. It can be and it is. And if they don’t want to play that’s their choice. If they had a problem all they had to do was ask, and I did what I could for them. But I was not going to try and make any effort to sell them on being a part of it. If they want to do it, they’ll do it. I made myself a promise back in the beginning that I wouldn’t talk anybody into doing this, anybody. Well, Bob Young has a different opinion about this, because he blames me for his being involved. I’m not going to argue. Who doesn’t want to be blamed, if Bob says, “You are the responsible person.” Fine. But his neighbor was Mr. Roos Atkins, Ed Gauer, he was getting along in years. Ed was there and he asked me a question. I went up to see him, he had asked me to come up. He asked one question, whether or not a certain area by the first lake could be used for grapes. I said, “Ed, it not only could be, but it is something that you should do.” I really went after him. Because I knew that anyone that had his background couldn’t just sit and vegetate.

Griffin: What year are we now?

Sisson: I couldn’t tell you.

Darden: Late sixties?

Sisson: Probably sometime back there, because he bought the Dana Ranch, huge place.

Griffin: Wasn’t it in the 70’s?

Sisson: It could have been. Anyway, Ed was up there, and I really went after him. And then he went crazy and started buying everything that he could get his hands on and planted the whole mountain. But I wasn’t concerned. If he got burned a little bit, it wasn’t going to kill him. That was what I was afraid of. It is just like this

thing the Gallos are doing down in Cotati. If that doesn't wash, so, big deal. Write it off as a tax loss. I would never have suggested to an individual who wanted to plant 20 acres that that would be a good place to go. Because you have to accept the high probability that you are going to have a total crop loss at least once every ten years, maybe even every five years, failure to get ripe enough to pick. And that would kill them, so I just couldn't do it. I made that promise to myself and I stayed with it. Someone had to say, "What do we need to be able to do this, what do we need to know in order to do this?" "Have you already decided that you are going to do it?" "Yep." "Okay, let's start from here." And then we would go through this whole litany of things, that were going on piece by piece. All these things were happening at the same time.

So the water thing was one of the real sticky wickets. If you match your climate or Korbel's climate with over 10 feet of soil with 20 inches in it, you don't have a 20 inch climate here. In spite of the way today is, it hasn't been that way all summer. You probably wouldn't have to have more than 14 inches (of water for the vine) at the most for the vine to get as big as its genetics say it can be, and be as productive as good management says makes sense. I'll hammer that point, you don't just put them out there and let them bear as much as they can, they will. But they can't. And that is what happened with Joe Rochioli over here. When we started with that vineyard, it was interesting, we were still budding, the guys budded it. That first spring it was like Jack and the Beanstalk's beans. Those vines went up the stake like a shot. About the 4th of July I went out and I said, "Oh, man. Joe if you have the will or the desire we can cordon these things right now." So we laid them over, a horizontal cordon, bi-lateral. They grew out until they were as far as we wanted them to go laterally, not touching each other. And they even grew a couple of shoots that were big enough to be left as spurs, all in one summer. And the first year or so Joe was careful. He dropped all the fruit, he didn't want to over-stress them. The second year he got two tons to the acre out of that stuff. The next year four tons and right on up to eleven. And he found out in a

hurry, eleven was over-cropped, even though the vine had the capacity to do it. Then they backed them down to eight or seven (tons) and held it there and they got ripe when they should and everything was cool.

Darden: So by over-crop they just didn't get ripe?

Sisson: That is basically what over-crop adds up to. It is a situation where you have the control, in the sense of either fruit thinning or pruning more severely. You have to be careful because we can put six tons of Chardonnay on Ron Dick's Belle Terre up on the river in Alexander Valley. That is nothing, they are far more capable than that. But Ron figures six tons is enough even though his climate will handle more..

Darden: He is a really good farmer. He is right across the road from me, my vineyard.

Sisson: He's a crackerjack farmer and his dad was, too. Well, Ron is somebody who is impressive. He was an officer with the army in Germany for awhile. I think that experience stayed with him when he became a grower. We ran into an interesting situation once with some cabernets. Ron called me one day and expressed concern about what looked like a heavy set on his cabernets. He thought that maybe they should be thinned. I told him his climate could handle it, but we could set up a research trial if he wanted to, but he would have to plan the fruit drop. He said we will drop one third and one half of the clusters on the trial vines and I'm glad I wasn't the one to make that decision. At harvest there was no difference in the time of ripening or the brix reading. The thinning made no difference whatsoever. They were not overcropped at the eight ton level.

Sisson: On this water business there were a couple of them that bought in fairly easily. Andy Vasconi up at Italian Swiss, when they were still in business, was perfectly willing to use some water. And one of the fellows down in Glen Ellen. There was

one here and one there. But across the board there was still a big taboo about even talking about it. I got two of the guys down on lower Dry Creek in a conversation one day, this was the case where one of them was between Dry Creek Road and the creek and the other was up the hill. They were both Zinfandel growers. We were standing there talking. "I'm curious. You guys both grow Zinfandels. Do you consider your quality equal?" "Oh, yes, there is no question about it, we have the same quality stuff." "Well, I'm sure glad to hear that. There is one thing that makes we wonder though." To the guy on the hill, I said, "How come you are willing to let your neighbor have six tons to the acre and you are only getting three?" And that brought a big sudden silence. And I said, "This is all due to soil depth and water retention in the soil reservoir. Your neighbor has in excess of ten feet he has twenty inches in probably a 14 inch zone right up there in that sector. And you are sitting there with three or four feet under you and the best (water) you have is eight inches, if you've got that much. If you are happy with that arrangement...your vines wouldn't give a tinker's nothing for water from any source, if they had it." And that was how I had to kind of tiptoe around this water thing. It was something that you just didn't slam into.

One of the things that I really initiated was the use of a backhoe as an evaluation tool. If anybody bought a place and they said, "We wanta, we wanta..." "Okay, the first thing that we are going to do is find out how deep is deep. You get a backhoe in out there and you call me up and we'll cut some slit trenches. We get down there six or eight feet, I used to get down in there, even after I got conked a couple of times. They were very revealing. Something like the Piner Flat has about a 26-inch overlay of a good loam soil, under it is concrete. It is a cemented clay pan. And the growers out there used to dynamite holes in it to plant prune trees. Or get a big ripper in. "Oh, it will work fine." Except when it got wet the next winter it all ran back together again. That is a cemented clay pan, it was an old ocean bottom formed over eons with colloidal precipitation plugging any pore space there was. I asked one of our geologists one time if there was anything we could

do to change it. And he said, "Yes we can revert to the Big Bang and start all over again and let it disintegrate again. And that is about it, there is nothing you can do. People mistake cemented clay pans for hard pans. And Julio was one of them. Because in the valley there are a lot of spots where a sedimentary layer has come in over something that was maybe five, ten feet deep, then it went back to the original and then it came back again and they had three feet on top of it. And all they had to do was get a ripper down deep enough to break that stuff up and it stayed broken. It was a sedimentary layer, not a cemented clay pan. That is a huge difference between a hard pan of that type and the stuff out here.

I have seen cases. There was one guy that I told, "We have to look at your place." He was a pear grower in the Sonoma Valley, down below Sonoma. "If you just let me know I'll come down and we'll get the backhoe in." He called me up, "I already had the backhoe in." "Oh, no." So I went down, the pears were still there, the guy must have dug those trenches eight feet deep if they were an inch. If someone had fallen into one, the guy would have been sued up one side and down the other. I was just horrified that he had done this before I could come down and make sure they didn't stay open. Anyway, right at that 26 inch level it was just a dead zone. The roots of those old pear trees were all massed in those upper two feet, and below it absolutely nothing. We have had other cases where it isn't quite as dramatic. I have learned to read my own interpretation of the soil. I used an ice ax and work down the side of the trench. If we were going to use the tool here, we would get right alongside of one of your trees along the drip zone, I want the feeder roots from the tree coming through the side walls of that trench. That is what I read the most easily. A perennial bush, I don't care. I got mixed up with a poison oak thicket one day up here on Dry Creek. I didn't know it was poison oak and I found out in a hurry that the roots of that stuff are just as toxic as anything else.

Darden: Who was first to use irrigation here?

Griffin: Water management.

Sisson: Water management, right. I'd like to say on this water frost protection thing of mine that I was really an instigator of it.

At that point of time when those water frost protection systems started being installed, it was awfully hard for a guy to sit there look at that and say "Gee, I put those in for frost protection." I told them in the beginning that this was a multipurpose system. Its basic reason is frost protection." I'm getting ahead of myself. The one time that we saved the crop, it's paid for. In the meanwhile, if we have an extremely dry spring and the soil moisture gets away from you, all you have to do is turn them on and bring the soil back up to field capacity and you can work it to your heart's content. That's one. Two, extreme heat jumps, not heat, but heat shock during the bloom can just knock the whey out of the set. It is not the fact that it was 95 or 98 or 100, it is that suddenly it went from 72 up to 102 over night. That is heat shock. We can use evaporative cooling by turning those things on and running them for 10 or 15 minutes and shut them down and do that about once or twice an hour. And keep the temperature of the whole vineyard down by using them in that manner. And then the other one, that has never really gone anywhere, we can actually use them as a spray rig. We tested that down at Korbel.

Darden: As a spray rig. Injecting into the overhead.

Sisson: Injected it into the overhead and it would accept anything that you would ever overspray a vine with. You don't use weed control materials on it. (Laughter) But you can put wettable sulfur out, or some acaricide, something that would work without hurting the vine. These were all things that were part of that system that I wasn't going to talk about until later.

You asked about who did water first. It just kind of eased its way in, I couldn't point to any particular person. I don't even think that Bob used it.

Darden: Bob Young.

Sisson: Yes, for irrigation. Bob didn't need to, he had the (soil) depth, again see. When we get into the warmer end of the county, what I call coastal warm. We haven't got into that, but we will get into that too. Coastal warm parts we are talking about climate demand consumption requirements of 22-23 inches. Far in excess of the 20 that you can store if you have a 10 foot deep soil. Now, that is where you get into somebody that is going to start some thinking about, "Hey, I could use a little extra." Other than that it was the thin soils that were the ones that were the beneficiaries to the greatest extent. Most of the alluvial stuff, except up around Cloverdale and down at Ron Dick's. We had an incident one time, we had a bus load of people come up from Tulare. Growers love to come up here and look around. I am standing there talking about how we have in excess of 10 feet of this soil and it will hold twenty inches, the climate demand factor is about 20 inches, there is no need for the grower to use any supplemental. And they are all standing there shaking their heads, couldn't believe it because they have to use about four feet of irrigation just to keep the vines alive down there.

I used the radio a lot talking about using water management. We used to have a radio program—I was the oldest radio person on KSRO there for quite a few years. We had a regular spot at noon, five minute show, that everyone on staff just loved to have. One of my partners, who was my ace agronomist, best friend and later a staff member. He wouldn't work by himself, so we used to double team it, be Huntley-Brinkley. It was better that way anyway than someone delivering a monologue. We used the radio.

And then this thing that I have given you. This kind of coverage in the PD (Press Democrat). Then there was *the farm page*, and it was a whole page. In today's world, forget it. Fortunately, I was able to do all of this before those people became urbanized.

Into the next arena. We were talking about the water and the next thing that was a real concern to me was that they were picking everything into boxes, field picking boxes. Even in a year where there is no problem of the rainy season getting here early. They would pick them and haul them out, carry them out to the end of the row, because they didn't have room to drive in and get them.

Darden: In wooden boxes, like the apples boxes.

Sisson: In wooden boxes, they would stack them up about six or seven high, they would be full, crowned full. And they would get some self-crushing. Now, when they got soft when rains came along, these varieties really self crushed and took a beating. This was one of the things that I set out to do from the very beginning, we are going to put varieties in places where they are going to get ripe by Halloween. That was my favorite mantra, "Get them in the can by Halloween". We are going to have trouble doing that this year. I didn't see anybody doing any picking on the road out.

Darden: Oh, they are picking in Alexander Valley left and right.

Sisson : But we are not in Alexander Valley, we are in a different climate regimen, this is Coastal cool.

Darden: They are picking reds.

Griffin: I think that they started today.

Sisson: We could have been picking sparkling based stuff a long time ago. Because we only need 17 and a half brix for that, not the 22 or 23 you usually want to shoot for.

Anyway, this box thing was a real concern to me. I didn't introduce the concept of bulk handling, but I saw what you could do with it. And what it offered. And I lit out and started beating the radio and the newspaper and everybody else that I could get to get people to do this. We had to get both sides, because the wineries weren't ready. Korbel couldn't take stuff bulk. Elmo Martini could, Frei Ranch was doing it, they were picking into containers. Italian Swiss was doing a little bit. They were hauling this on their own property over to the crusher. We had to come up with a series of tools, like the ones we had in the newspaper that showed the Kunde's making them. Louie Martini, I call it the Martini System, other people call it the Valley System.

Darden: The bins, the trucks and the forklifts, tractors and trailer.

Sisson: Louie used flatbeds, and put the tanks up on clevis' pins, and you could pick four or five different varieties at once and carry a tank full of each if you wanted to. He often times took two at a time. So that was the other system. The third system was figured out by some of the guys along in this area (Westside Road south of Healdsburg), I don't know if it was Mounts or who it was, or (Robert) Frost started in with prune boxes that they picked up with a forklift and then rotated sideways.

Darden: I've seen those, where it grabs it on the side.

Sisson: Those were the primary ones, that were over and above. The Kunde System of course, Bob invented this himself. They had their own loader, they are still using

it, they had small ton and a quarter size gondolas, railroad cars, you might say. They would pull them through the vineyard in a train. Let the pickers pick into a pan, we got rid of the grape juice mud and these other things that were not so pretty good when they were using the boxes. Not to mention the fact that when we got into tough years, they were lined up 15-20-30-40 trucks in a row just sitting there waiting their turn. I've mentioned a number of times, one young fella, I took his picture, was looking back at the edge of his flat bed and all the juice was running in a stream right off down Elmo Martini's driveway. In the meanwhile, we were washing down the streets of Sonoma County with free-run juice which is in some people's minds is considered to be the superior type of fluid. All of this had to come to a halt. So, I just started to put it all together, urging everyone to get on the thing and go. It made so much sense it was an easy sell. It was just a matter of the wineries being able to receive them. All of a sudden people could come and go and not stand there for hours on end waiting their turn for them to unload one box at a time. So that was one of the things that I went after, I wanted to get 100 percent bulk.

Now, venturing further into machine harvesting came later. I was always a little bit leery because the machine harvester was really designed for the valley and their table grapes and raisin grapes and stuff like that. We've got some varieties that can be machine harvested. When Jay Benoit had his place over there on the other side of the river.

Darden: Who was that?

Sisson: Joe Grace's grandson. They had a ranch just down river from you (Griffin) right across from Fred McMurray's place. Mona Chitsem had her cattle ranch, I guess, next door, and Jay was picking cabernets with an Upright Harvester.. And it was working out okay. I've seen people try to use it on soft whites. Like one time in Alexander Valley where there were Chenin Blancs still being grown. And that

brings up another point was that I walked the row, I was just feeling leaves to see how wet they were getting and my feet got muddy with grape juice mud just following the harvester. So you have to be careful what you are after. I don't see many people that will take their Chardonnays and risk that, or their Pinot noirs that are thin skinned. The tough skinned guys, it is okay. Besides, the Cabernet's berry shatter very well. The valley people were able to take Thompson's because they would cluster snap. And the whole cluster would come off when they were shaken.

We got into this business of using all these tools. But the one that I was most interested in was getting bulk handling totally adopted. And as far as I know it has been but there may be somebody somewhere with three acres that still picks in boxes.

Darden: I think that actually no, they use plastic tubs now. The little champagne tubs that interlock so that they can stack them.

Sisson: Whatever the case, doing it the old hard way is kind of passé.

Darden: Wood is getting more expensive. It is easier to use plastic. And they don't leak.

Sisson: Not only that. I think that Food and Drug might get interested. With all those boxes, by the time you got done with a harvest season. Those things were coated with 3/4 inch of grape juice mud.

Darden: It all comes out in the wine.

Sisson: I didn't say anything. I just said that I think that there are agencies that might say you can't do it that way because it is unsanitary.

The water, the boxes and understanding this business of the powdery mildew that we touched on a little bit earlier. I noticed what the people were doing in those days, in addition to using this heavy anchor brand, stinks real good sulfur to get the fumes, they were applying it to the vines by shaking it on with a burlap sack. Whole gobs of it on the vine, and the more it stunk the better they liked it. And it took me a while to get the idea across that properly done we don't need very much sulfur to cover a vineyard. Ten pounds to the acre will provide a coating on all the green surfaces of the vine, if you could meter a duster down to ten pounds to an acre, which you can't. We have to use about 30 pounds to do it, because the machines just aren't capable of metering it down any further. But the idea was to have them understand that you can't fire sulfur, micro-particles of sulfur through the air, you have to move a block of air from the machine and displace a block of air over the vine row and you have a new mass of air sitting around the vine that is full of sulfur that settles out on all the surfaces. That's how dusting is properly done. If you do it right, you can't even tell you have done it as soon as you get through. There is no way you can tell that the vineyard has been dusted in the last two hours. It doesn't smell and it really does the job of covering them up. That was the mildew business.

I mentioned this other problem with the spider mites. I haven't heard too much said about them being a big pain. I think that most of our premiums have a resistance to them, but the Zin's were home and mother to the Pacific mites. They just burn them up, they will destroy the canopy and if those leaves are out of commission, that's it, then you're not going to get any more maturity.

Darden: We had a spider mite problems in the Alexander Valley this summer, I saw some really good growers using a little bit of Omite.

Sisson: In that case, we have the tools and the knowledge, no problem. But it was not something that could be done in my early days, because the only way that you

could do it was to drag a hose from a spray rig at the end of the avenue. And that just isn't feasible.

Darden: What material did you apply?

Sisson: There was a whole array of materials that are good as acaricides, I don't really have a brand name in mind without getting into a lot of things. Half the ones I used never got beyond the number stage. And the others are all gone, replaced with something else. I remember Karathane very well, that was a good one. If you did it on a hot day you could defoliate the vine in about ten minutes flat. A good way to control those mites. On the other hand there were some effective miticides to be had and we were using all of those.

We got into another matter of a serious disease problem known as oak root fungus, Armillaria mellea. That has always been with us, it has always been here. It became a real serious problem when we started following orchards with new vineyards. So I kind of pioneered pre-plant soil fumigation. (Hands Darden a document) That's what you have here. That proved what I suspected. We had been watching people that had been doing some treating. I told the story once about a good friend of mine who was giving me a hard time, boy. "We got to do something about this oak root fungus, it is killing all our vines." And I said, "Well, Bob it is real easy. We can do it right now if you want to. All we have to do is lay out a pattern of rows, diamond spaced, 18 inch centers, put a couple of guys out there with a half inch rebar rod, poke a hole six inches deep and pour two ounces of carbon bisulfide in the hole and then step on it real quick. And when you get through you will have bought the ranch back because it will cost you \$600 an acre. At that point in time our economists valued a vineyard at about \$600 an acre including the value of the land. That is kind of painful. That is where we stood. The carbon bisulfide was highly effective, and I don't know what happened to the two older publications of mine. Take it for what it is worth, in '53 when

people like an economist got through doing all the breakdown of depreciation with the price we were getting for the grapes, we were making about 48 cents an acre, net profit. And they were all ready to quit which is fairly understandable. Then this Armillaria that kind of progressively became more than what we could do going the hard way and poking holes and filling them up with a can. That carbon is nothing to play with. It was explosive, it was corrosive, it was flammable, it is like gasoline in your tank. I want to remind everybody that you are riding around on something that is almost the same. And they are all deathly afraid of carbon bisulfide. Now it has been replaced with methyl bromide, totally replaced. I just spent a year and a half working with the new Ag Commissioner, John Westoby, trying to run down the source of carbon that I did all my work with, all my research work. And no one knew what I was talking about. I went from one coast to the other, we tried on the internet, we tried every source I could think of. I tried and nobody knew what I was talking about. So we are stuck with methyl bromide for the time being. Well, if we have something new show up, maybe it will help.

Griffin: Is there something in process because methyl bromide is now a problem.

Sisson: It has been extended another five years. We do have a little breather there, but it is of a great concern to me. I am very worried about the apple country and losing it to other than agriculture, shall we say. I don't want that to happen if we can help it. But we have a another one that one of our profs at UC Riverside is working with methyl iodine. It is more expensive and unknown as to how effective it will be. Amarillaria is deadly, there is no defense, period, as far as grapes are concerned. There is nothing that can withstand it. We had a prof down at UC Berkeley, Professor Robby, who tested every kind of grape that he could get his hands on over the years. He found two or three that looked very promising as to being a resistant rootstock. He sent them up and Prof Lider and I took them up to Cloverdale to one of the spots where we knew there was an infected area and

planted them down in the planting holes with infected pieces of plant material, and they never grew, they just didn't have it. So, we are sitting here with no biological control possible on the immediate horizon. Whatever (else) sits out there is another matter.

What I was out to prove with this research with the Kunde's on their Sonoma Mountain ranch, was to follow up on an observation we had made. Where people had done some fumigating, the vines took off much faster than where they had planted back where they hadn't done any fumigation. They got bigger quicker, and they got into bearing faster. And I said, "There is a good possibility that if we measure this, we can find out if it is really costing us as much as the price tag on buying the application of the carbon sulfide." At that point in time Stauffer Chemical was the outlet, they had a mechanical injector that they were using. They wouldn't go near any place where there was a piece of pea gravel. They were deathly afraid of a rock, because it could cause a backfire and blow out about a half an acre behind you and you had to do it over. Orchard Supply got that thing from them and then they made a deal with the growers. That if there was a blowback that it was your loss and they would just do it over and we would go from there. So that was how we were doing it, we had a mechanical applicator.

Then we found out that what we were doing was in effect making a double comparison. On the one hand we were trying to test the possible dollar advantage, if any, and we were also making a comparison study between AXR#1 and St. George and we will get into that a little later. And at that time the AXR#1 was the superior under-stock. And there are two things that a rootstock is going to have to do—grow a decent vine for you and provide some protection. They may be separate but they work together. So, we wanted to know how good the under-stock thing was. The AXR#1 out produced the St. George two to one. And in both cases where we used the AXR#1 we not only got all the money back that it cost to fumigate but we made a profit. On the St. George we got about 2/3ths of the

money back on that. That kind of sealed the deal. That became a statewide matter of standard operating procedure pre-plant fumigation and that holds to this day. When I presented that data at the annual Enology society meeting everyone was shaking their heads, they couldn't believe the difference in the dollars. And it was instantly accepted. So that is the story on the Armillaria. It hasn't gone away, the oak tree is being unfairly maligned by being blamed for it. You can find it in almost any prune orchard, any pear orchard and almost for sure any apple orchard. Also, the wild stuff that grows all around us. I have had one experience with a grower up behind Sebastiani and up in the high county and up in a canyon, something that had never been planted. And she opened it up and she cleared it. I helped her pick out the stock and she got it planted and about three years later we had three or four dead holes in it. Oak root. No domestic stuff had ever been grown there, it had been living there on the wild plants. You can't just wander off into the back forty up here and (hope to escape it). There is no way of being sure that it is not there other than with preplant fumigation. You can be darn sure that it is there if you can find a root and peel it and find the mycelium of the fungus between the bark and the wood. That is the normal location where that stuff works. It is a better saprophyte than it is a parasite. So that the minute that what it has been working on dies it immediately explodes and takes over takes over the whole thing. We ran a test, Professor Hewitt and the rest of us, over in Napa where we buried some roots that were oak root infected and also some more that had fan leaf (virus) that we knew was there. And left them for ten years and then went back and dug them up and they were just as infectious as when we put them in. The bottom line is as long as there is a physical piece of wood, as long as it doesn't turn to mush and simply biodegrade to nothing, the organism is able to survive and it can put out feeding extensions from its body and find something else to infect within several feet. So it is an insidious thing, and the chap from UC Riverside that came up to talk to the grower group here a couple or three springs ago, said that they had evidence to indicate that it could stay viable for a hundred years. What this did for me, besides telling me that I could tell people that if you

pre-plant fumigate it really isn't costing you, you are going to make a profit on it. You have to take that on faith, if you don't have a control. But at the same time it provoked me to get on people like you and everyone else that lives along one of the water courses to be extremely careful. If you ever get inundated with flood water, that you go down where ever the high water mark was and you pick up every piece of stuff that was left behind when that flood water went down and take every bit of it, pick up every piece 1/2 inch or bigger. Get it in one spot and destroy it.

End of Side Two Tape One

Side One Tape Two

Sisson: We are finally getting down the topic list, but we are not through.

We are down to climate. This matter of climate as one of my first major objectives was to get people to understand what we were doing here. Napa had done an outstanding job of selling the idea that they were so unique that their climate was what exclusively permitted them to do all these things that they were doing at Beaulieu and Krug and Inglenook and whatever else was all theirs.

Darden: Beringer, Martini.

Sisson: So, I said that we were going to scotch that in a hurry. This entire notion that they have something that is not available to us is utterly ridiculous. In essence there's more differences within the counties than there is between them. As I've pointed out many times, one of the main differences is that our western border is too cold to be used for grape production. And their eastern border is too darn hot for premiums. Other than that they are identical, except for the microclimates of individual spots. As I said before, there are more differences within the counties than between them. That is where Louie Martini was really a big help, because he didn't say anything. A lot of those Napa people were not too happy to hear me

talking like that. At the same time they all knew that Louie already had one vineyard in Sonoma County and was dickering for a second vineyard over here like the White Oak place down the road. And nobody really made a big fuss over it. One of the things that was a major concern to me was the fact they had a 35 year jump working with premium varieties. And here we were with common standard jug wine varieties, I don't care how good they were in their own way we had to change that.

Griffin: Let's talk about common standards and the difference between what you mean by premiums.

Sisson: Carignanes, what the growers used to call Golden or Napa Chasselas which were palominos, which were really a valley grape that was used for sherry stock. Stuff like the Petite Sirah. If I said this to Elmo Martini, Elmo would say, "Hey, don't knock that grape. They love my Petite's down in New Orleans." And that was one of the things that was lacking, terribly. One of the notions that the vintners had, not so much the grape growers, was that they had a national market. And they didn't. They had a product that was being marketed nationally *in spots*: New Orleans, New York, New Jersey, Chicago, the West Coast, that was it. Not North Dakota, not Nebraska, not Oklahoma, not Tennessee, not Kentucky, they never heard of it. And that was where we got into this thing, the marketing. (Looking through notes)

One of the problems was what we are really saying here. The thing I credit a true national market to was courtesy of Gallo and I guess, either Petri or Allied. I always get confused about who was on first, it was both, of course, Italian Swiss. Thunderbird, and Silver Satin—now those were soda pop wines, as I call them. And they horrified all the growers, "People drinking that stuff!" "No, don't get excited. This is the best thing that ever happened. It has gone nationwide. Everybody is into Thunderbird, Silver Satin, Hombre or Golden Spur or any of the

other names that were running back and forth. What is going to happen is, they think that they are drinking wine, and sooner or later they are going to try the real stuff. And when they do that, we got THEM.” And that is what happened. I have said to different growers on several occasions that they ought to build a statue to Thunderbird and Silver Satin somewhere in the county and pat it on the head every now and again. Because that is what really broke this thing loose. That is when we started getting the converts and the new people and everything else. And it started rolling in the late 50’s and early 60’s.

Among the other things that we were doing, was developing and using these (leaflets) something we could give to people— costs of establishing, costs of — I’ll give you some. This is 1960, now in 1960 both of these are to establish standard head trained, spur pruned vineyards. As recently as that we weren’t really publishing (more modern designs). Here in ‘72 the cost to produce irrigated cane pruned, here in ‘74 is the cost of establishment. It was along about that point in time this thing got moving. This thing seems to be a display of what it really costs you to do this. But it was far, far more than that. I can be devious, as you can imagine, on occasions. Now doing this on a regional basis was something that I wanted to do. It saved the specialists to have to do it with each one of us separately, it saved the economists the same thing. We just got together in our office and put it together. Mendocino County usually squawked a little bit because their land values were nothing like Sonoma’s or Napa’s. It got to the point that the whole coast was using our cost studies for their clientele. The thing that is still lying here without being paid a whole lot of attention to, is what it says in the text. It says: Pruning, [413] vines, now that happens to be the vine count for an 8 by 12 spacing in a 40 acre vineyard. So what I was doing, I said, “We’re not going to publish these and show what people are really doing for the most part. We are going to publish these and show what we would like to see them doing. Give them the costs for doing it the way we want them to do it.” Which is kind of arrogant on our part, but by the same token when a guy is sitting there looking at this [413]

vines on an 8 by 12. "I've heard him talking about that and here it is in print." And here it is right there in print. Sulfuring, four times. Sulfuring 50 pounds. Spray for mites, and so forth, and the fertilizers and the weed sprays. Everything in here was a subliminal message *of this is how we think it should be done*. I don't think to this day that anybody really realizes that we were using subliminal communication by the way we built the text. They thought it was just a cost study. "I don't do it that way, but it was close enough, but maybe I should be doing it that way?" And that is what I wanted them to start thinking. That was what we were doing with the cost studies. And then we used to go to all the farm center meetings, back in my rookie days. It was just something that the whole staff did. There were a million farm centers in this county at that time. And the thing that troubled me was I would walk into one of those meeting halls and everybody that was there looks like I do now. "Where are all of the young people, where are all of the kids?" This was back in the 50's, they couldn't get out of here fast enough. They had other fish to fry. They were going to go somewhere where they could make a decent living. It wasn't going to be on some 40 acre ranch that was producing 48 cents an acre net profit. Even though you didn't count that you were doing it and not hiring it. There was a big enough spread to take care of a family, really. The kids leaving thing, I just thought I would throw that in, they no longer are leaving and a lot of them that did leave came home.

This grower that I mentioned, with the Armillaria problem, , her son was a medic down in Palo Alto, Grant Fletcher, a good friend of mine, he bailed out, then he came home and took over the place.

Darden: Went and got an education, had a profession and came back later.

Sisson: When they found out the lifestyle was unbeatable. But you could also make a living out of the it. And that made a difference. You get people like Bob Young, they have three generations now, I'm sure Jimmy...

Darden: In grapes, but I think that they are more like six or seven on the land.

Sisson: What I am saying is the two boys and Sue are his [Bob's] kids. And then Jimmy has kids, we got three generations right there. I don't think that any of Jimmy's are old enough yet to keep it going.

That's not the way it is with the Kundes though. I worked with them from the start, Arthur Kunde, Sr. was the honcho, he was the padrone. I didn't ever meet grandpa Kunde he was gone by the time I came along. Art had four sons and one daughter, two of the boys were really on the ranch and the youngest one (Richard Kunde) is now Sonoma Grapevines but he was a kid in school then and he went to (University of California) Davis, almost got his Ph.D. and came back and put that thing together. And now he doesn't have to care whether the ranch makes any money or not.

Darden: He had a lot of acres of his own.

Sisson: I know that. Rich is doing okay. The thing that Rich and I used to talk about was that one that I hadn't been able to win a point with the guys. That was that they really shouldn't be letting someone else take the very fine product that they were putting on the market, they should be using it themselves. All of a sudden now they are doing it, they have taken it all of the way, and it is something that I had hoped they would do.

Darden: They make a very fine product.

Sisson: A lot of pats on the back in the literature. But it took a long time before they got to the point where they were willing to (build a winery) but they have the acreage to support a winery.

Darden: And more, they still sell outside.

Sisson: Ron Dick could do this, so could Bob Young, but they don't have that much acreage. Bob, when I got him involved—as he accuses me of—he told me the first harvest in, “I'm selling this to four different people.” He wouldn't tie himself up with any one. But in today's world, this was one of the things I made a big effort on, we had cases—I've had August Sebastiani tell me that he wouldn't buy so-and-sos grapes because they came in below the standards he wanted them to be. And I said, “August, did you have somebody out there telling that grower when he should pick?” “Well, that's his responsibility.” “No, it isn't. This is a team effort and the vintner had better have some input into when and where.” And Chateau St. Jean started doing that. They were one of the first ones to do that.

Darden: Now most of the grape contracts are written, so that the wineries make that decision.

Sisson: I know. That's what I was trying to get in the first place, but it took a long time to do it.

Darden: They don't have a sugar requirement, they have a recommended level and they'll tell you when to pick.

Sisson: And that is how it should be. It wasn't that way in my early days, the guys picked them when they thought they should pick them and they took them in. And somebody would say, “They're no good or dump them.” It had to be a team effort. That is exactly what it wound up being. August and I had a pretty good debate on that that day. And then he quit. He decided maybe I had a point and he started sending somebody out. I said, “It is not the grower's fault if you don't have someone out there to help him make that decision, it's not his fault.” We went at

it. August and I used to argue anyway. He was an interesting guy and a hell of a business man and grape grower and everything else. It was pleasure to have known him.

It holds to this day, all the stuff we did in the fields—meetings. I can remember the first time I called a meeting to show people how to cane prune and we had six guys show up. One of them was Angelo Sangiacomo, he was a pear grower. Ang used to come to all of those meetings. He didn't do anything, but he came to the meetings.

Darden: He grew pears on all that land where he farms all those grapes?

Sisson: They have one pear tree left, he left it for his dad to see. He wanted his dad to look out and see a pear tree. But when he started to make his move, he did it like Bob Young, he did it in a hurry. Actually the IRS had something to do with that. They wanted someone to allow them to make an in-depth analysis of the cost of production of a pear operation of somebody with a class act. So, they went along with it. The auditor that was working with them finally got down to the bottom line and he said, "Why are you still growing pears when this says you can make three times as much growing grapes?" And that just finished Ang off, from that moment on, it wasn't just me this time it was somebody from IRS of all places. It was just so obvious. But they were in the pear business and respected statewide. And so was Bob with prunes. The good ones had the perspective to be able to sense it was time to change.

Darden: And to adapt technology as well.

Sisson: One of the things about the prune deal. I get blamed for running all the prunes out of Sonoma County, okay, I'm not going to apologize, and the pears I don't apologize. I think that we are in better shape doing what we are doing than in

having those things around. And it goes back to this attitude about the quality and water. Prunes were better quality than Marysville stuff because they were non-irrigated. The mere fact that our prune guys were lucky to get a ton and a half to two dry tons (an acre), while Marysville was sitting over there getting four or five dry tons and there was no differential in price. When I started preaching, "Let's go premium," that's what I was preaching. There was a difference. I had Brother Tim come over here from Christian Brothers back in the old, old, old days, when they were getting 35 bucks for whites and 40 for reds. And asked me, "Do you have any Semillon growers?" "I think so, Brother Tim." He's a real nice guy. "I want to buy what they've got, I'll pay 85 bucks." He says, "But I won't buy any that are anywhere near Sauvignon vert. If there are Sauvignon vert in the planting, I won't buy them. They got to be where they can be separated so I can tell that they are Semillons." And that was one of the first cases where I really had a chance to appreciate that there really was a margin in the premium thing. I knew it all the time, but to have it come up like that. And the prune guys got nothing, not even one nickel a pound premium for their stuff. And some of them hung on to the bitter end.

I have to tell this story. A young friend of mine was my field assistant, was working for me on the staff, and his dad was a major prune grower right out of Healdsburg on that road in-between the end of Dry Creek and Westside. They had a big orchard down on Forman Lane and Harold Hoskins was going out of his mind trying to get his dad to let him grow some grapes. He wouldn't do it, wouldn't do it, wouldn't do it, *he was a prune grower!* And he was one of the last ones. One day Harold came in, "Well, I'm going to have to quit." "I hope it is for the reason I think it is." "Yeah, he finally relented." "You get the heck out of here and get that vineyard started." Boy, did he make tracks. But that's how this thing worked all the way through instead of turning the acreage into sheep pasture.

Then there was the little matter of some other kind of agenda I had, of being anti-developer. I didn't want to see the county turned into the San Fernando Valley or San Jose. Actually because of Silicon Valley, they ran all the growers out down there, just threw money at them, and those guys came up here and boosted the price of our land about four hundred dollars an acre. Because they didn't have any other place else to go with it. They had to put it back into the ground or send it to the government. So a lot of those San Jose guys came up here and took over quick when the hops were gone and we were still messing around trying to figure out something else to replace them. But when those people got that money, they had Sonoma County as a target all the time. And they showed up and started in. And they too, I guess you would have to call them converts. They were doing something with an orchard down there probably. I was worried about this, and something that pushed me hard to sell "Let's grow premiums, the climate is right. You are wasting it putting it on top of carignanes." The type of stuff that I used to use as an argument was that if we could get the returns up to an attractive economic level the people that owned the ranches wouldn't be breaking their necks reaching for a pen to sign some agreement with a developer the first chance they got. And that scared me, because I saw what happened to L.A. and the San Fernando Valley. And I watched what was happening to San Jose, I didn't want to see that. I was worried about Alexander Valley, I was worried about Dry Creek, I was worried about your Russian River Valley. One of my very best colleagues, he came up from down below too, we kind of figured we would lose the Sonoma Valley. But we didn't because Kunde had enough of it when they got Kinnybrook to anchor it. Oakmont hasn't wrecked it. Agriculture is still a viable thing down there, I'm not going to say we've lost it.

Darden: Don't you think that the agriculture preserve has had an effect on that?

Sisson: Oh, yeah. It had an effect, but I don't think the ag preserve itself really can match up with being about to make a decent return. "Ag preserve? Oh, yeah, that's nice,

I think we'll sign up for that." To "How much did you say?" That's what it is all about, the reality of dollars. Let's face it.

We had some things that were on the drawing board that scared me. In those days there were three major dams being planned; one was Warm Springs, Dry Creek; one was Knights Valley which was going to dam Maacama and part of Mark West; the third one was Sulfur Creek. I've used that third one in arguing with the departing, I was departing, she was the chairman of the board of supervisors, Helen Rudee. I said, "Helen, if you can do anything to influence the City of Santa Rosa, for God's sakes try and get them to put that pipeline up to the Geysers. It will be in a climate zone where the water can be used by agriculture. If you take it south and it is not going to be used by anything." Of course, she didn't have that much to say about it, but she knew people. But I do think that she did say something about that. If it ever came to the point where that field lost its heat, which isn't likely, loses water yeah, but not the heat. Then, we could get Sulfur Creek dam back into action, it's all planned, probably in somebody's drawer, probably on a computer disc now. Knights Valley, I don't think it will be touched. Sulfur Creek would be in the back county it wouldn't mess up agriculture and it might even be an enhancement. But only if we needed a place where this effluent can be thrown into the dam and then have it be diluted with natural run off, maybe ten to one. Make it usable water.

Darden: Tertiary treated water they call usable for agriculture, for drinking for that matter. They haven't offered any to agriculture in Alexander Valley, they wouldn't even offer us a fire hydrant.

Sisson: We were the point of the spear on land water disposal. My agronomist was leading the charge by putting in trials down out of Rohnert Park. I had the state guys call me, "You are wasting your time, you can't grow anything on that stuff. The climate is wrong, the soils are terrible." I said, "Why don't you come over

and see what Lloyd has grown.” They did, and then they hired a consultant to duplicate what he had already done. So he put in another set the same year. I hate to tell you what they paid that guy. I rode with one of the brass of the Bureau of Water Reclamation and I said, “Isn’t that a little expensive when we have already done the basic research on this?” “Oh, that is just pocket change.” Several hundred thousand bucks.

Darden: What were they researching?

Sisson: They were duplicating the growing of the stuff in the same location that my agronomist had already used, using waste water. The second time, everything that they put in fell flat on its face. Lloyd’s was growing merrily away, looking lush and they finally came in and asked for help.

Darden: What was his name?

Sisson: Lloyd Harwood. He was my ace agronomist.

It ties in to this threat of those dams. I could just see Sulfur Creek, Knights Valley, and Warm Springs surrounding Alexander Valley. I could conjure up a vision of a huge Oakmont. Very, very easily.

Darden: This still haunts people, some of the older people, particularly in the valley, any little development.

Sisson: I gave it a shot, so far I’m happy with what is happening, it hasn’t gone down the tubes, yet. But we have known all along that both Napa and Sonoma counties are vulnerable. If they come in with enough money it will talk again, as usual. In the meanwhile, we have something here that has a long life expectancy if people are

willing to support it. But we have got too many people that are taking cheap shots from the urban sector to suit me at the moment.

In addition to the business of trying to hang onto our ag areas there was really nobody who asked me to do this, really. The established growers they weren't looking for anybody to come along and tell them there was a different way of doing it, no way. The others hadn't even come into the thing yet. For awhile there I had to take the lumps, but that is all right.

Darden: But you think that climate's changed now don't you think, farmers have education, their sons are sent to Davis, they come home to work.

Sisson: Undoubtedly.

We got into this business of where the bud mite led. And somewhere we got off track a little bit, but this is a supplement to it. It lead to one; a general acceptance among all of us doing the research that the mite didn't have anything to do with it. And you haven't heard that word spoken since the 50's. In fact, if I was to say something out loud today, people would say, "What in the world are you talking about?" It is just that dead. Another of the things that was of interest to me is that my opposite numbers in the San Joaquin couldn't get the same results that we were getting out of Cucamonga and up here. I couldn't understand, why, why, why? Then all of a sudden the light dawned. All the stuff that we were working on was spur pruned. All the stuff that they were using for their trials was cane pruned. And if you do this stuff on a cane pruned system it doesn't do anything, because there's no pruning of the bearing canes and it doesn't change anything. It didn't get much use here because we were already moving into the cane pruned systems or the cordons. Now the cordons are another story, because we are going back to spur pruning again. If they were to ever start showing the symptoms, I doubt that they will. But if they were to, this time of pruning thing could be

instantly recovered and used for them. After Winkler and I worked all those years together over here, we came to the conclusion for one thing there were three real viruses—suddenly elevated to an acknowledgment level, “Hey, these are viruses”, not just some white emperor’s disease as it was known in the valley, it is really leaf roll. Unfruitful carignane up here is really Yellow Mosaic. Fan leaf, I don’t even remember what we were calling fan leaf back in those days. But it was one of the three that surfaced. In addition, PD of course was thought to be a virus, but that was out. That was the beginning of switching from standards to premiums.

Then we come into some interesting revelations, one of them was when this thing suddenly exploded in the early 60’s with a national market, whether they were drinking the real McCoy or still sticking with Thunderbird, it mattered not. Because there was a line of thinking that was conventional wisdom here, like don’t use water or things of that kind. But if you are going to plant something *three out of four had better be red*. Three out of four had better be red. Well, why? And I started asking myself, “Why, what is the big deal?” Well, for one thing the reds are tougher and they take more abuse. The whites are more delicate and Europe rarely got away from where they were being grown. You can throw a red wine into a barge and row it across the Mediterranean to Egypt and still have something that you could drink when you got it over there. That was perhaps a reason for the three out of four things that they were coming up with. When our people got into this, and I blame the women as being the provocateurs in this case. All of a sudden the whites became the dominate thing. And it just confounded Enology in Davis. “What is really going on here?” They tried to figure out what was happening to provoke this. I came up with my own theory, there were a whole lot of them. I am a stranger in the restaurant business around here, most Americans want whatever they drink ice cold or hotter than heck, room temperature isn’t their cup of tea. I prefer my Sprite at room temperature. That was the whole thing. The whites took off because the gals were involved in it, they were buying them and they were served chilled. And I thought that that

would calm down and it would be 50-50. If you look at your records you'll see that consumption has gone from predominately white back down to about half and half. It will probably never go to three out of four being red, and there is no reason it should.

Darden: When I was at Davis in the 80's getting my master's degree, they told us half red and half white was what you were supposed to grow.

Sisson: I was forecasting 50-50 way back at this point.

One of the things that, of course, that made the whites so attractive was that there were huge advances technologically—controlled temperature fermentation, things of that kind. Ambassador Zellerbach had a little vineyard down there up out of Sonoma, maybe Aqua Caliente. He was going to make a wine that he could take to his ambassadorship in Italy and show them it was a class act. A pal of mine that was an Air Force buddy, was his enologist. I don't know how much the Ambassador had (to do with it) he gets all the credit, but Brad Webb, whose brother (Denny Webb) was the chairman of the UC Davis Department of Enology and Viticulture after Winkler retired. Brad was the one that set this all up with stainless steel fermentors, glass lined. Most of the stuff that we used elsewhere was not glass lined. They had a separate crusher for reds and a separate crusher for whites. And these other little goodies, all that the Ambassador wanted, he wanted everything available to turn out the highest quality product that you could possibly do, and they did.

Rod(ney) Strong actually was the one that made stainless steel more available to the rest of the industry. He scouted out guys that could work with it. It is special handling stuff, not everybody that is a sheet metal guy can work with stainless. He made all his own fermentors right on site and sold them to everyone else.

Darden: Now we have a big business in Sonoma County making stainless steel tanks.

Sisson: I give Rod the credit for pushing the button and pushing this to the commercial level. Everybody was tempted to do it under temperature controlled fermentation the way it was supposed to be. It was so much better than throwing them into a concrete pit and waiting for the fuzz to quit bubbling up.

Another thing that is a trouble to me, and I don't ever think that I will win this one, is the prevailing view that stressed vines and those that are grown low production are higher quality. What I will say in this case here is that no research has ever been done to justify or prove this point. It has never been done. I started thinking this thing through after I was talking with someone. The ability to set up a research, a replicated research trial, would be incredibly complicated. In order to have it be fair, the grapes would all have to be grown on the same soil type, under the same climate and totally controlled so that we are taking them at six (tons per acre), four, two or whatever levels. Those would be very difficult to come up with with replications. How many reps would we need? Well, to get ten percent significance probably fifteen or so, and that is a lot of reps. then everything would have to be done blind from there on, the enologist couldn't know what the production levels were until it got in the bottle. And blind tasted and then where are we there—subjective stuff. So I don't think we will ever see any research (in this area).

Darden: I still find that to be a common belief of wine makers that anything above three tons per acre is over-cropped no matter where it is grown or under what regimen.

Sisson: I have a response to that. Most of the wineries if they have a chance to get at it will find some guy with a little two or three acre piece up on some mountain and pay him a bloody fortune and then they will make a big deal about those grapes

going into their wine. But in their own vineyard down on the flat, if you are their manager you had better get them five tons or you are out of here!

This is a complicated thing. You are dealing with a crop that is romantic, it has charisma, it has cheerleaders and alumni associations. Whatever you can think of—cheering sections. We have a clientele that thinks they ought to be able to tell you how to produce what they are buying. And that is the sticker in this. They have been thoroughly brainwashed by the wine writers who adhere to this stressed vine/low production thing. And they make a big deal out of it. So you are not going to throw anything in the paying consumers face. And so I think if that we don't say too much and go ahead and do what we do, it will be best.

I had an interesting experience with one of our profs one day. It will take a minute to tell a story for a change instead of a lecture. This was Professor W. M. Kliever one of the authors of *General Vit* with Winkler.

Darden: He was my major professor.

Sisson: Mark was a real good friend of mine. We were all over at Davis for a meeting, and he started piping up in the early stages about this two ton production thing. And I thought, "My god, Mark where in the world are you coming from?" So I had a bottle of Ron Dick's Belle Terre Chardonnay. We had all brought something for the dinner. This was the Chateau St. Jean label. It was an outstanding Chardonnay. Our specialist Amand Kasimatis and Lloyd Lider both knew what I was going to do to Kliever. I made it a point to sit next to him at the table in time for dinner. "Mark, I want you to try this wine, I think that maybe you will like it." So, I poured him some. And the other guys were just sitting there watching, they helped themselves of course. "Gee, that is really an outstanding Chardonnay, that is really wonderful." I said, "That is the general opinion that I have been getting about the stuff. There is one thing that I have to tell you though, the production of the vines

that produced those grapes wasn't two tons to the acre it was somewhere up around four or so." And then we went on and on. And then he would have some more. "You still think that is really good?" He said, "That's the best that I have had in a long time." I said, "Actually, the production level on those vines was six tons to the acre. And he didn't say anything. He and Lider and I had a major research trial laid out at Alexander Valley Vineyards where we were working on different trellising for high vigor vines and I said, "I'll tell you Mark, those grapes were grown about a 100 yards due north of our heavy vine production research area." And he didn't say any more, and that shut him up about the two ton thing. And it is really too bad because I don't think that it inhibits anyone. As I used to say at the conclusion of every seminar, of every field meeting that we ever held, when you go bed the last thing you should say to yourself is quality control. If you never let that slip this thing can go on forever—if you guys get sloppy then it is vulnerable as heck.

Darden: Mark Kliewer is up in Oregon, retired, growing grapes.

Sisson: Mark Kliewer left me holding the sack.

Darden: I bet he grows more than two tons to an acre.

Sisson: I bet he is too.

The thing about this business that I didn't mention, was that, this ties into the climate and the climate studies I ran. Nobody knew anything about this county, really. Even today the whole idea of climate understanding is based on the old regional concept that Winkler and Amerine worked out years and years ago. Where you took the daily high temperatures and the daily low temperatures, and calculated a mean, subtracted 50°, which is the beginning growing point for the vines, and the difference was that many degrees for that day. So you might say a

10 degree day. If this was May we've got 31 days, then we have 310 degree days. And you add them all up from April through October. There are five regions, so 2000 to 2500 is Region 1 it is the coolest. I have years of records on it. Twenty-five hundred to 3000 was [Region] 2, [3000 to] 3500 was Three, up to four thousand was 4, over four thousand was Borrego Springs and it was desert and hot, Region 5. That was made to do one job, to break the state up, grossly. To give people some idea where in California you could do things with grapes. It was never intended to be used to identify a microclimate like yours right here.

And that was where I got a little bit concerned. Because back in those early days, the (San Joaquin) Valley was king. What they wanted they got, if they wanted to buy Davis, they bought Davis. And all the profs were doing valley oriented research. When we got things going our way that disturbed the valley considerably. They were suddenly aware that this premium business was for real and it still disturbs them, which is too bad. One of the things that really concerned me was some of the pitfalls in this regional computational thing. It takes no account whatsoever into length of time that it stays at any temperature. So, you are going to measure this based on one point of contact at the highest point for the day. So if it was 90 (degrees) fine, if the low was 52 fine. That is the spread, and we have the mean, and we do the arithmetic. What it doesn't say is that I thought at the time that we had to be concerned about with some of the north San Joaquin counties like San Joaquin itself. And that those guys have got the same kind of tapes that we have. That both places were 90, okay, but they were 90 at nine o'clock in the morning and they were still 90 at five o'clock at night and we may have been 90 for thirty seconds at two o'clock in the afternoon and the math was the same. And that is when I cranked in time of exposure. Kliewer had worked out a photosynthesis curve that said that we had a nice curve going up from 50 to 95 and then it went down like a shot. To look at the old regional thing, the hotter it got the better, it could be a 110 and that was fine all the better. It just added a lot of numbers to your totals. But it wasn't so fine, because it will cost you most of

your acid and everything else. But this was not showing that Lodi, for example, might have been running 1800-2000 hours between 70 and 90. I arbitrarily took that chunk out of Mark's curve. And said, "This is what I'm going to use to determine Coastal cool and Coastal warm, Mark, now if you have any other ideas on how I should do this say so. We can go 95 to 65, whatever you want." He said, "No, 70 to 90 is good." I said, "Fine, then that is what we will do." And that is what I did. And half of the Sonoma County appellations on the congressional record are based on that heat summation thing of Coastal cool and Coastal warm. I didn't go any further because we would of had to get tapes from Lake County which would be an intermediate thing, all sorts of tapes from the San Joaquin Valley to find out what they are like as regards the duration of heat and the same thing for the desert. In fact, Jess Jackson showed some interest in this. He asked me to sit in with him with his entourage. And he wanted to know why I thought this. I said, "Because there is a total difference between a day when you are up above 80 for only an hour and a day above 80 for eight hours." And there is where the quality is going to go (to the cooler area). So I asked Mark, "Can you break that curve up and tell me what percentage of potential photosynthesis takes place at 65 degrees compared to 92 degrees?" "Oh, yeah, no problem." That's the last I ever heard, "Oh yeah, no problem." And I still don't know, except that my formula is what I used to break up the climates.

I've got some things here we can look at for the heck of it. There were three years in a row in '82, '83, and '84 in Alexander Valley, this is at Ron Dick's place. In '82 he had 2572 degree days which is just barely over Region 1, which is the coldest you can get. In '83, it jumped back up to 3614, over Region 3. The following year in '84 it was 4020 just into Region 5.

Darden: That was a hot year!

Sisson: It sure was, but it was 4020. We went from almost Region 1 to Region 3 plus to Region 5 in three consecutive years, which should have said that anything that was made in those years was going to be totally different. But when you correct that happening by my way of doing it. In '82 we had 1132 hours between 70 and 90, in '83 we had 1336, in '84 we had 1334 we didn't have as many hours between 70 and 90 at the 4000 degree year, as we had the previous year when it was a whole region cooler.

Darden: Because it was a 104 and not 90.

Sisson: The differences in exposure were only 200 hours between 70 and 90 for the whole three years. And nobody said they had any problems with sudden changes in their quality of product. But if you looked at it from a regional standpoint it went completely off the chart. That is the scoop there.

On this regional method, the guys did not use tapes that came out of the field, they didn't have them. They probably had to use data from tapes that came from the US Weather Service. We've got Sonoma, Petaluma, Graton, Santa Rosa—that's four, Healdsburg, now we have Warm Springs, and Cloverdale that's seven,. I don't know if I have forgotten any. But we have eight recording stations in Sonoma County. All of them are in town, and everybody's town is a heat sink. In the book, if you look at *General Viticulture*, Petaluma is called Region 2, maybe downtown Petaluma is Region 2 but if you get out in the outskirts where you can do something with growing it wouldn't even make a good Region 1 it is so cold.

I ran a trial one year with Bill Kreck down here at Mill Creek (Winery), we put this station in the field in '76. His reading for '76 was 2991, just at 3000 degree days. The Healdsburg reading for the same period was 3681, 690 degree days greater, like a region and a fifth. The following year he had 3029, they had 3632, 603 degree days (difference) again. This is just two miles difference, on the same

flat plain. It's not like you are going up in elevation. That can do it. But not on the flat. Those numbers I don't know what they mean, they came from tapes that were recording in-town temperatures. And that is far enough to go in beating this climate thing to death.

Darden: Now we have these Adcon stations in the vineyards that send the data to a central computer. There are something like a hundred and twenty of them in Napa and forty in Sonoma. More data then you can swallow.

Sisson: We had Thermisters back in those days, too, Anna.

There are two things that I want to still run by you a little bit on this. All this climate work I was doing really started with the Board of Supervisors. I was on sabbatical leave down in Berkeley, I didn't want to go back.

Griffin: What year are we now?

Sisson: 1961. There was a thing called the Riber Plan that was being talked about, putting in a big canal, flanking the Bay from clear up river and down through Sonoma and into Marin County. So the board asked one of my people whether or not we could grow grapes below Sonoma. It wasn't being done, there wasn't any Carneros at that time, except by name. I told Lloyd, I said, "Tell the Board I want three recording thermographs and I will get the answers for them." And they gave us the money. And that is what got me going on this. That's how I got all this data and did all these things, you have to have the tape to be able to come up with this hours between 70 and 90 format it isn't in any book, all that stuff just goes back to North Carolina and it just disappears. Unless you have got somebody that was doing it in the field doing it himself. So there are some weakness in the regional concept other than the fact that it doesn't take time into account and it should. It doesn't have any endpoint on how far is hot enough, or too hot. The actual data

itself has to be questioned. From that regional thing, I'm sorry to say, we wound up with a lot of Cabernets being planted on the beach in Monterey County. In fact, I had one of my colleagues at an annual conference in early December ask, "Have you picked your Cabernets yet?" I looked at him and said, "Rudy, we had those Cabernets picked back in Halloween." "We haven't picked ours yet." And it was my understanding that the taste was alfalfa, that was what they came up with when they finally picked. Obviously they are all gone now. It was a bad mistake, and it was partly due to our work.

Darden: Now they have them inland in Monterey County.

Sisson: That's all right, if they have the climate support, that would be comparable to coastal warm here. Our situation here is controlled entirely by the fog, the marine intrusion. It comes in from Tomales, hits Sonoma Mountain branches and goes below it and up the Valley of the Moon, it branches north and comes up to Healdsburg and stops until late at night and then it eases up into your valley (Alexander Valley). But that's after it matters. That is how this thing works. There are two things that happen. There is a hole, what I call the Glen Ellen hole, where it doesn't come together down at Kenwood, the two arms just kind of stop. And this warm hole exists down there.

Darden: And up on Sonoma Mountain, too.

Sisson: You are going into another matter there Anna. The thing about elevation is the minute you go up five or six hundred feet on the side of Sonoma Mountain or any other ridge for that matter you are up in Alexander Valley, it is the same thing. I got into quite a discussion with Bob Kunde on that one year when I told him, "You've got to get in there and pick those grapes or they are going to turn to raisins." He said, "They can't be ripe yet." I said, "You had better go look." And they were up to about 25 brix and shriveled.

End of Side One Tape Two

Sisson: It all ties together, it was an interesting study, but at least I was able to tell people, "If you want to do this I would suggest here, here or here." And I did that with Marimar Torres. She came in the office and she was all set to do something very permanent down in the Sonoma Valley on some horrible ground. We talked for about two hours. Quite a lady that Marimar. And I said, "Marimar, there is one thing that I would suggest you do before you make any firm decisions. Go over to Sebastopol and see what you can find in the apple country, you may be able to make a good buy." The last I heard she's in Green Valley.

Darden: Nice place there.

Sisson: That's what I was able to do because of the climate (data). We could use about 2/3ths of the existing apple acreage for our purposes if it comes available, and it looks like it almost certainly is going to.

Darden: A lot of it already has.

Sisson: Brice Jones took care of some of that by buying out Hallberg.

Darden: And Walters Ranch, too, the Vinehill Ranch, it is all Chardonnay, now.

Sisson: There is one more place, that hasn't been paid much attention to, that has the potential to provide several thousand acres and that is Annapolis. Annapolis has its own little microclimate. I have one major ranch that was the old Hedgepeth place and he ruined it logging. What a mess it was, slash and stuff that hadn't burned yet. This fellow from Lake County, Jim Soper, owns it now. He wanted to know about grapes. I went in there and ran a climate check for him just to find out about the area. He is back inland and a little further in than Annapolis, and he was a good solid Coastal warm. He has Cabernet. Annapolis itself would have to be

Coastal cool, Gewürztraminers, Chardonnay, Pinot noir, and what-have-you country.

One of the other things that we had a constant running debate on was this matter of nutrient management for vineyards. I didn't mention this too often. But for this purpose I think we should. Grapes have to have a complete slate of nutrient elements. They need nitrogen, potassium, phosphorus, sulfur, zinc, boron—as bad as it can be, but they need it. If there is not enough they are in just as much trouble as if they are burnt up. The big contention here was with the commercial sector, they love to sell you already mixed fertilizer—10-10-10 whatever. There is a bigger profit in it. And we have taken the position long ago that every element should be dealt with on its own. So I had to introduce, had the fun of introducing, that you don't just go and throw on nitrogen just to be doing it. You get an analysis first. Preferably a tissue analysis and there is a big difference between a soil analysis and a tissue analysis. Soil analysis tells you what is in the ground, that is great. Tissue analysis tells you what the vine is getting out of the ground and that is the one that counts. That can control whether you do it at all this year or not. Until then it was just taken as rote that we just did certain things. This multi-element fertilizer can be dangerous. If we have 10-10-10, for example, and if you know the grapes, potassium can be a problem, if we need potassium we've got to put it on at the rate of six pounds to the vine to get any results. And if you were to take 10-10-10 and use that as your potassium source you would be putting on the equivalent of 2478 pounds of nitrogen per acre.

Professor Cook and I ran a nitrogen tolerance test research up at Italian Swiss years and years ago. We put on a hundred pounds actual per acre on a couple of rows and we blew the crop off of those vines so bad that it took them four years to calm down. That was a hundred pounds, heavens knows what would happen if you hit them with a ton. This is the danger of the triple threat, if you need potassium, you use potassium. It has to be done as a placed thing. You don't just

broadcast it, you place it inside the drip zone. I did some work on that and found that you could get it into the ground by putting it on the top, you didn't need to dig a ditch. Our way of looking at it before that was to use a basin, and that was just too much work.

Griffin: What is organic grape growing?

Sisson: It depends on who you are asking. Basically, it is doing everything that needs to be done without the use of any chemicals, artificial. They are using chemicals.

Darden: Mined chemicals.

Sisson: This is the fallacy of their whole agenda, it is something they love to say, but if they think that chicken droppings aren't a chemical there is something wrong, it is 4% nitrogen that is the highest form of nitrogen of any of our animal waste that we use. Steer manure, cow manure maybe 1-1 1/2 %. And they call it, that would be called organic farming, using that stuff. It means that you are not going to treat with any chemicals. This makes you wonder a little bit about how do you handle sulfur?

Darden: Sulfur is a mined chemical *and* considered organic.

Sisson: That's fine. Sulfur is a fungicide and it gets killed for being a fungicide but it is our primary protection against powdery mildew.

Darden: Whenever the folks from the city come and complain about *that spraying* going out there. I tell them it is "Oh, that is sulfur dust, it is considered organic."

Sisson: The thing is that if we didn't use it as a fungicide we would have to add it as a nutrient element.

Griffin: This is why it is such an important question I think to ask you because of your history and all that you have brought to the county. There is so much pressure and there is such a trend towards this organic farming. And the public is beginning to demand in the future that we have labeled...

Sisson: I know.

Griffin: How do you suggest we deal with this?

Sisson: There is no way of hiding under the rug and saying it doesn't exist, because it does. Now, if I were going to make an argument out of it with someone, I would say from the standpoint of staying in business, I have to protect my grapevines. And if that necessitates that I spray for some kind of a problem, they would object I'm sure. They would object to the use of pre-plant fumigation. Because methyl-bromide is a bad guy anyway and carbon bisulfide is just as bad as far as they're concerned. If we don't do it we're not going to have a vineyard, Armillaria will make it absolutely guaranteed sure that it will die within three years. This is where you have to bow your neck a little bit and say, "Look, we don't use anything we don't have to use." I've said this a million times in defense of agricultural spraying. "No grower that I know has ever told me that he finds it fun to get out there with a protective suit on and run a spray rig for two or three hours on a day when it is 80 degrees in the shade and he hasn't got any shade." Not to mention the expense. People think that you as a grower are doing this for kicks.

Griffin: I don't think so.

Sisson: Well, there are some that almost think that.

Griffin: I think that there is a genuine concern about the carcinogenic effects and some may talk that way, but I don't think that they believe that there is an empathy among the growers.

Sisson: On the wine thing, we can take a cop out on this. You are not selling something directly like a cabbage head or a carrot or anything of that kind. You are taking grapes off a vine and running them entirely through a separate process. It is so separate that the state won't even allow us to add the value of the end product in the ag crop report. The only thing that is in that crop report is on the ranch raw material. In the estate wine the winery is a manufacturing place even though you are only changing it in form. So I don't know an answer for you. I wish I could give you a simple answer. If I was doing it, I would say, "I don't use anything that isn't absolutely necessary to keep my vines alive. If you can't live with that, sorry." You are not doing anything other than that to begin with, so that is a perfectly honest statement. I don't know any grower that is putting anything on his vineyard that he doesn't feel is absolutely necessary for the survival of his vines. Simple.

Griffin: I wanted to get this nutrient thing in there because it is a matter of some concern.

Sisson: The last thing, that is my pet [topic] water frost protection. The water frost protection is something that pleases me a great deal. We were exposed to it by one of our specialists at a grape farm advisors meeting. The Germans knew the physics of the thing. Water when it is freezing releases heat, 144 BTUs per pound. As long as water is constantly freezing, the surface upon which it is freezing never goes below 32 degrees. And a grapevine isn't hurt at 32, it doesn't get hurt until it hits 31. I was sitting there listening to all this, this is very interesting, they were using it to protect their fruit trees, they thought. Their fruit trees started growing and they are built differently and they built up an ice load on those trees and it broke them all to heck. They said, "Just forget this" and just chucked it. Our

people in Michigan picked up on the process of the latent heat of fusion of water, which is what it is all about. And they started using it on their orchards, and guess what, they broke all their trees all to heck with ice loading. I was sitting there listening to all this, thinking it doesn't necessarily carry over to our vineyards. They are designed by their very structure to carry a load, with the trunk and arms and what-have-you that are there. And beside that we are probably not going to use the process before the first part of April, it is unlikely that we are going to build up any serious ice load for any length [of time]. Actually there is a really great picture that Jim Lider got out of this over in Napa County, it is a classic. It shows what an ice encased shoot looks like when the shoot is about six inches long. We were worried about the weight factor on these succulent shoots. But the minute the ice starts to form, it forms its own support on down to the arm. It is an encasement and it gets bigger and bigger and bigger and bigger as long as the water runs. I said, "Gee whiz, I think we ought to take a harder look at this. Orchard heaters and wind machines are the bane of everybody's existence, the neighbors hate them. This is neighbor friendly. The only thing that I can think of that anybody could object to is having the sprinkler head throw water on the road when it was freezing and cause an icy spot." But we have protectors on them now to keep that from happening. The more I thought about it that more I thought that it had some possibilities. When we got through with the meeting I talked with my opposite number over in Napa Jimmy Lider, and Jim was agreeing with me. "I hadn't thought about that, let's get serious about it." When we came home I started talking about it on the radio. Immediately PG&E got real interested, boy, they wanted to get that 220 on all the ranches. They were helping to get people. I said, "It is going to take five or six years or seven years to even get people to think about listening to us. That guy is at it again." They were used to hearing me. It was a situation where mother nature stepped in and really helped. This was in '62 when we brought this idea back. And in the Spring of '64 we had an interesting weather condition develop one afternoon in late April to the point where it was already below 32° at 10 o'clock that night. And it did not get back above 32° until

eight o'clock the next morning. We had 10 hours of exposure. We had one person out here in Graton, Warren Dutton's place now, Mr. Lindberg who had put in one of our crude, early idea systems—just running the pipe over the top of the posts and sprinkler heads off the pipe. Bob Young even had that same system in on his when we put that [vineyard] in.

Darden: I've seen one like it in Napa, aluminum pipe.

Sisson: Yes, but it has got a lot of flaws in it. And then over in Napa one of the guys in Calistoga, Mr. Forney, had done the same thing. And Jimmy was working with Beringer, we were trying to find out how much water per minute we had to throw in order to keep the vine constantly in a freezing condition. You can not permit any interruption. Because ice can be any temperature from 32° to absolute zero. And if you were to stop an application and it was 28° the ice would become 28° within minutes, and I mean very few minutes. Because we have to start the systems up most of the time at about 33°, but when the dewpoint goes down into the teens we have to start at about 36° to keep up with the drop in temperature. It can happen so fast.

I remember Jimmy Bundshu told me a story once about his system. The alarm went off, this has to be alarmed, too by the way, they are all on automatic, and he went down to check it and it still wasn't down below 33°. "Oh, I have time for a cup of coffee." And he went and had his cup of coffee and by the time he got back it was down to about 31 and they hadn't kicked in yet, and it did some damage. We can have serious, serious damage from a frost. If we get any kind of frost beyond first degree, which is just the terminal part of the shoot being damaged; if it goes on to get anywhere behind a cluster, we are going to lose at least half a crop.

Griffin: We use your system down here.

Sisson: Water frost protection, I think that we have about 20 thousand acres [under protection] now, in Sonoma County.

Griffin: We have had it from the early 60's.

Darden: You pump out of the river?

Griffin: Out of the pond, right here.

Sisson: If you look at the information publications that we have on this, I'm sure you've got one somewhere, they have to be backed up with above ground water. You can't risk pumping it out of the ground. If something happens to PG&E and the power goes out, even if you have your own back-up power lifting it a couple of hundred feet might be too much and you can't get it out fast enough. What we try to do is that everybody that has a system has a pond or ponds of some kind. And the sizes that we recommend are based on a 40 acre vineyard, so you can take it from there. We've got thousands of these ponds in the county now. We need enough in storage to handle two consecutive 10 hour nights.

Darden: A lot of people use diesel to pump out of the ground.

Sisson: Everyone has to have a complete back-up, as I say, there is no grace period here. If we have an interruption, "Tell it good-bye." That is it. I can remember one year, it is a horror story. That was one chap that had a pretty fair sized lake, all his water was impounded, he didn't have any other source except his impoundment which was a substantial sized lake. But we had 23 nights that spring, it ran anywhere from two to maybe three hours.

Darden: '71 or '72?

Sisson: It was after '64, I can guarantee that.

He had enough water for 22 nights. The 23rd night came along and he didn't have any more water. Good-bye everything. But that was the same year that the pear growers in Lake County darn near went broke just firing. Napa County as it turns out has very few water frost protection systems in vineyards, because they don't have enough water. We have the water to back up what we need. It pleases me to no end that this has gone to where it has gone. We have slope vineyards, they don't need protection. Cold air flows just like water. Absolutely, just like water, it makes its own decisions about which way it is going to go, just because the river channel is doing something doesn't make any difference to that cold air.

After that 10 hour night within two days, I understand, every grower in both counties saw those two green vineyards, that's all there were, everything else was black. Things took off so fast, we had about five different outfits that came tearing over here to go into the installation business. That's when we went underground and started going up with the risers. The overhead pipes were okay, but if they sagged they get pockets of ice, and if a kid comes along with a 22 and puts a hole in it, not so good. With a subterranean system it is pretty darn reliable. The only thing that you have to be careful about is if you live along a water course and if you know you have a chronic spot where it tends to be high often, I would take the rainbirds off so they don't become damaged by a piece of junk going by in the river current that may beat them up or plug them up. You have got to be absolutely picky-picky careful with how these things are done. Because if one of those heads doesn't work everything within its circumference is not going to be having ice constantly being formed.

Darden: I realized something this spring, we had one frost night in the Alexander Valley. And everyone turned on about 4:30 in the morning. I went around at dawn to look

at the valley, the whole valley was covered with water. It was really a beautiful sight as the dawn lit up with rainbows. The water comes out of the ground at about 45 degrees. So, no sooner did everybody turn on, it was only about 32-31 degrees, as soon as everybody turned on, the temperature went up four degrees in about a half an hour just from the water in the air.

Sisson: I didn't make much mention of the Gallo thing, maybe I should. Their Chief of Staff was Paul Osterous, Julio's indispensable Chief of Staff for his vineyards. I had bets from all the guys at Davis, Gallo was never going to be involved with any premium anything. They are quite happy being the biggest. And I told them that they were nuts, and if you want to make a bet, I'll be glad to accommodate you. Those fellows know they are the biggest and they also want to be known for being the best or as near to it as they can get. When this does happen I want them in Sonoma County. I didn't want them going down to Livermore and saying, "Hey," and reach into their deep pockets and out comes the TV money, "What we are doing down here is just as good as." I could practically hear them now. I got worried after awhile. There was a period where there was a group of growers who had a cooperative in an old winery down in Windsor. They were all Zinfandel guys. And every year they had their co-op annual dinner. I had to go up there and work, well that was okay. It gave me another chance to encourage their learning to say Chardonnay, which I always took advantage of. But Julio was the guy that bought all their stuff, bought all the Zinfandel they had. I've always considered that we had four Zinfandels in the state, North Coast, there's Lodi, what ever it is, and there is Cucamonga and the fourth one is Gallo. The Gallo Zinfandel was a combination of North Coast and Lodi. And that's the one the rest of the country knew about. The others—they never heard of Cucamonga, and they didn't know anything about North Coast because Pedroncelli never got his beyond the county limits, I don't think. And our people here to this day, "Zinfandel is the name." It's no more worldwide than I am. It will get there, it is a premium, it is a very fine wine.

Darden: White Zinfandel, I think, saved Zinfandel. People started to drink White Zinfandel and then they discovered, "Oh, there was red."

Sisson: Yes. That is what happens. They try one and "Let's see what the other [tastes like]. Oh, that is real Zinfandel."

I had my own experience with that. My grandfather, bless him, was quite a guy, was in Southern California from the turn of the century. He could have owned San Diego, could have bought it for 10¢ an acre. He lived in Escondido as far down as you could get without being in Mexico. He loved Zinfandel, I was going down to see him one time. I said, "I'll go up to Pedroncellis and get a gallon of theirs. Because they have a really great Zinfandel and always have had. I took it down to him and he poured a glass of that, and said, "That's a really nice wine, but that's not Zinfandel." His own experience was only with Cucamonga. It was a totally different taste to him. And that was when I started saying, "How many Zinfandels have we got?" And now we have lost Cucamonga but we have replaced it with Sierra Foothill. So we still have four Zinfandels. But the Gallo without a doubt is the most widely known without question. We would have this annual meeting of the group. And I would get up and start giving them my version of why we should start thinking of going premium. And really lay it on them. And Julio would sit there and never look one way or the other. And then it was his turn to get up. I always got on first. He would get up and say "I want to see this county planted to nothing but Zinfandels." That was all he would say, then he would get in his helicopter and go home. And this happened year, after year, after year, after year. Then one day Paul Osterous called me, "Can you meet Julio and me over at the Frei apple orchard [Frei Brothers ranch off Guerneville Road, south of Vinehill]?" "When do you want me to get there Paul?" "Well, the day after tomorrow about 10." "Yeah, I'll make it." That was the beginning, they call that the Laguna Ranch, or something. It was about three hundred acres, maybe four. Then, I

realized that they had Andy Frei in their pocket. I know his son Drew, I worked with Drew when he was doing a honcho's job for a Canadian outfit up in Geyserville. I was a consultant on that, I don't know how much money those people put into that place and then just turned their backs and walked away. It is a magnificent site. But whatever the case, they [Gallo] had made their own arrangements for their entry into the premiums, whatever felt good to them.

Darden: Is this Frei Brothers out on Dry Creek?

Sisson: That is headquarters for the whole operation, now. If you haven't looked in there, it would make a set for Star Trek.

Darden: I've looked in there.

Sisson: It looks like some separate planet out in its own galaxy that is specially designed to make dilithium crystals or whatever they need. Talk about your stainless steel! When they were building that lake of theirs they had so much heavy equipment in there it looked like they were building another Warm Springs dam.

But some of our growers were really reluctant about encouraging the Gallo thing because they had business dealings with them. Those guys are no-nonsense business men, they didn't get as big as they are without being that way. And they have every intention of doing the other premium thing, just like they did the *getting big part*. They are going to be as good as you can possibly be. An example of that is the Harvest Fair thing, they just won something on Gallo of Sonoma's Chardonnay from the Russian River Valley appellation. How does that hurt? Who does it hurt? I didn't want them saying that about Livermore or anywhere else [than Sonoma]. What really pleases me as much or more than anything else was an article I was reading, someone asked Ernest, "When are you going to have

Gallo of Napa?” And he said, “Why would we need to have Gallo of Napa when we’ve already got the best that there is?” Enough said.

Darden: Should we end on that note?

Griffin: Thank you for sharing and documenting what you have done for this county.

Part Two
Oral History Robert Sisson

with Bo Simons, Wine Librarian, Sonoma County Wine Library
at Wine Library, February 5, 2003

After review of the first Oral History interview it was discovered that some important points had not been covered and the necessity for a follow-up interview was established.

Bo Simons: It is Wednesday February fifth, 2003 and I am talking with Bob Sisson. And we are going to complete his interview.

Bob Sisson: This is part two of the interview, containing things that I didn't have time or I didn't remember to cover in part one.

When I went to work we were on KSRO radio at noon for five minutes, six days a week. The hardest thing that I found out later was to make a one minute spot, there is nothing harder than that and I mean to say something in a minute and having it mean something, so we had this five minute deal, and I did an awful lot of this radio stuff to get people thinking about us and the vineyards. Everything had to be changed Bo, there was no question about it. The way that they were doing it (farming) just wasn't right and they weren't even considering what we are going to need to get where we are now.

Simons: Let's start with the questions then.

Sisson: I was going to say that I had a colleague, he was one of my best friends. He and I got into a big battle royal one day out in the parking lot. One of us was going to have to become the County Director. I said, "You're the senior guy

here for Pete sakes, I don't want to be that, I want to work on my grapes.” “You should be the one to do it.” He had turned down about five counties, he was smarter than some other people—to stay out of the administrative end of it. He finally said, “I’ll tell you this, I haven’t said anything before, I’m going to quit.” And I told him, “That’s nice. What is this all about?” He said, “I’m going to Brazil with the Rockefeller Institute.” Which he did. Then I went out and brought him back later after he came home and hid him in the bushes, so that nobody else knew he was around. He was really an outstanding advisor. Lloyd Harwood, he was our agronomist. What happened when he left? Nobody could figure out how I managed to get all those top people. The next guy that I brought on staff and who was then the director up in Lake County, asked to come home. He was our dairy advisor when I went to work. And he wanted me to go with him, but they wouldn’t let us both go. He was not really happy as an administrative type and he had some problems up there, but he was a crack agronomist. I said, “Okay, Lloyd’s leaving you come on home.” I could have bet anybody in the place, and they were all willing to bet that he wouldn’t last a year, that he was going to quit or retire. And five years later, he did. Then the minute he did that, I reached out and got Lloyd back. He had been messing around looking at the stock market ticker tapes for a year, and he came back to work.

We would work together, he wouldn’t touch the radio, he hated it. But we would play Huntley and Brinkley. I would say, “Good Morning friends, this is Farm Advisor Bob Sisson today I’ve got Farm Advisor Lloyd Harwood with me. I’m going to ask Lloyd to discuss subterranean clover from Australia or whatever. That is the way we used to work it, a back and forth. I thought that it was better than a solo monologue anytime for everybody.

I remember once we were asked to come up here (Healdsburg) to the Chamber of Commerce when they were in the process of fighting over

Warm Springs (dam). The folks that were there, a bunch of them, were all worried about the climatological effect of “that big body of water”. I’m sitting there looking at them, “I hear what you are saying, but I’m not sure I quite understand it. If you go up to Clear Lake the vegetation around the edge of the lake isn’t the least bit different than it is a mile away from it, and it is a lot bigger than what we are going to have here. But the main thing is if you want a climate influence, take a look at the Pacific Ocean it is only twenty miles to the west.” And they finally looked around, they hadn’t even thought about it, all they had been thinking about is what that lake was going to do. I couldn’t imagine what they thought it was going to do. So we worked our Huntley-Brinkley thing on them and they had no more questions. It was one of those times when people just didn’t think far enough ahead. There was an ocean out there that is really controlling things, and they were worried about some frog pond.

Simons: How did you decide what premium varieties to recommend to the growers to get things going with the new plantings that were beginning to go in?

Sisson: Bo, the first thing we had to take into consideration is that I had to convince people that we needed to think about the premiums and the group that was primarily involved in this thing were already growing grapes. So, it was necessary to do a selling job on those folks and convince them that they were wasting the climate, which I used to use as a point to make my point. Why waste it growing Carignane when it was a climate that was perfect for Cabernet Sauvignons? That was how this thing had to be done.

We had folks scattered all over the county that were old time grape growers. With out exception you will always find one guy, or one group, one family that were are kind of accepted as leaders. What they did, everybody else was watching them. They were always watching what they were doing. This was

the case with the Kundes' with whom I did so much of that early research work. I recall vividly that there was a big fig tree out behind Art Kunde's, Sr., Big Boy's house, and many times a year, usually in the summer, he and his two sons that were on the ranch and I would get under that fig tree and we would have a debate and a battle royal about whether it was worthwhile to continue to waste the climate on jug wine standards or whether we really had the capacity to be the same as Napa County and grow the real premium class stuff. We spent a lot of time exploring the reasons that I thought of about this. And they were serious. No one else ever asked, "Why can't we do this?" But they did. They were leaders in their own way. We talked it out over and over and over. I remember vividly one night about two o'clock in the morning the phone rang. Of course, my phone was always open to the growers, I didn't care what time it was. And it was Bob Kunde, "I'm going to tell you something, but it's classified you're not supposed to tell anybody." "Well, I never do, go ahead." "We're going to buy Kinnybrook." "Well, that's great. What are you going to plant?" "Carignane!." I said, "Oh, I hope that you have a good time with your Carignanes." But they planted Chardonnay had it in mind all the time. But this was how we kinda eased into this thing. And as we got into the other clientele, the converts, as I tended to call them, and the new people that were coming from everywhere, it wasn't necessary to even discuss the matter. Because they came in with an open mind. Most of our converts, like Bob Young and the fellows that were farming prune orchards already had some idea about that they had in mind that they wanted to do. So the whole point boils down to what made sense in terms of choosing varieties and why we chose those that we did. I suggested four varieties that were really properly qualified to be called world class varieties. Cabernet Sauvignon, of course, was one of them, King of the Hill as I call it, and the Chardonnay and the Pinot noir and the white Riesling. And of that group, half are quite suitable for our coastal cool growing part of the county and the other half of them were equally quite suited for the

warmer growing areas, Coastal Warm as I call them. And it worked out just fine. And the reason I was trying to keep the number of varieties down for starters was because I felt that it was entirely necessary that some kind of a reputation, a label acceptance be established before you start spreading out and put in too darn many varieties of grapes. You can spread yourself too thin, too fast. And that was what I was trying to encourage them to avoid. And it worked, we did it that way. Shortly after we got this whole thing going, I surfaced the idea of that it would be nice if we had about 20 percent of the acreage in Merlot. And Merlot was a special variety, it wasn't ever used in its own right until our people here began to do it. It was used by the growers in Bordeaux to speed up the softening of the Cabernet. and they couldn't really ripen Cabernet over there anyway because Bordeaux is too cold. That was how the Bordeaux label itself got formed to deal with the climate there for Cabernet Sauvignon. They blend in high sugar varieties like Cabernet Franc used the Cabernet Sauvignon, and the Merlot, and the Cab Franc, and the Malbec. Those were the four that were primarily called the Bordeaux blend. That was why I wanted to get the Merlot worked in, I was almost sure that our guys weren't going to be willing to sit on their Cabernet for five or six years before they let it out. There was a tax problem there, of course, and Cabernet isn't something that is really ready to go the first year. I would love to see a situation where we never had it on the market under seven years, that would be ideal. But that's a little bit of an optimistic view.

Simons: From planting to production?

Sisson: Actually, this is just aging the wine. The production thing is a whole different matter. It brings up another point, I started out in the very beginning after we cleared the air with having a climate that was the same as Napa's. Even though, they would have liked to have it exclusively theirs, it

just didn't work that way. The only thing that ran astray out of that first group was the white Riesling. And for some reason it just didn't make it with our clientele.

Simons: Too bad, it is a good wine.

Sisson: Yes, it is. This is Johannesburg Riesling, of course in Europe, we have used a lot of their descriptive terms. But I still don't understand why the White Riesling didn't go, but it didn't matter because it was replaced almost immediately with Sauvignon blanc, which is doing just fine. The thing that also surprised us was we had the northern group, from Alexander Valley and Dry Creek group which were Coastal Warm and Cabernet and Merlot were ideally suited. They decided they were going to plant Chardonnay, too. And it turned out that the warm zone Chardonnays were a little different from the cool zone stuff from the Russian River Valley and western Santa Rosa plain and some of the Sonoma Valley. But in the long run we have gotten to the point where we are simply known in some of the feature magazines as the premier Chardonnay location of the country. They give Napa the Cabernet Sauvignon, although there is absolutely no difference between Alexander Valley and Dry Creek and Oakville. But people have to do what they have to do. The accolade of producing the outstanding Chardonnay has fallen to Sonoma County, much to my great pleasure. That was what we did, I was thinking to keep the number down to start with and then add on as people felt comfortable with expanding their labels.

My prime objective was to make sure that none of them got planted in the wrong place. Now, that may sound strange, but if you blow it in a climate choice with a given variety you can have an unfortunate situation. And this happened, it happened down in Monterey where some kind of a publication got out, I wouldn't even allow my secretaries to give it to anybody, because

there were some glaring errors in it, I knew that Professor Winkler didn't have that in mind, when he and Professor Amerine put the climate region thing together. Which I don't like to use for small microclimates, anyway. But the whole thing in a nutshell was that we had to be a little bit careful with this climate thing. The Monterey people wound up putting their Cabernet right on the beach. It came back to haunt us up here because they planted an awful lot of them. Our growers were right on the verge of taking some of their Cabernets out, in fear they were going to be over planted because of this Monterey thing, and I said, "Don't do it. Because as soon as they find out what they have done, they are going to have to yank them out."

Simons: Bud over to something else.

Sisson: Yes. I had one memorable occasion when my opposite number from Monterey at a annual conference, just before Christmas, asked me, "Have you picked your Cabernets yet?" I looked at him and said, "You've got to be kidding Rudy. We had our Cabernets picked by Halloween." He said, "We haven't picked ours yet." And I found out later that they tasted something like alfalfa. It was one of my main concerns that we didn't wind up with people planting the wrong thing in the wrong place. That could have been a disaster for them, it is expensive to do this and it needs to be done right to begin with. And I feel very happy about the fact that I don't know of an instance in Sonoma County where this happened. That everybody that did what ever it was that they did (what was recommended), after we discussed it and wound up with something that was correct for that location. That is how the choice of varieties came about. I kind of took the lead in making the suggestions. But it was entirely up to the growers themselves as to what they were actually going to do, but it was one of my main things to get things started and get them growing in the right place and go from there.

Simons: You touched upon it when you were answering that question there, but when did you begin to believe that Sonoma County had gained equality with Napa County as far as reputation.

Sisson: Because that was one of my primary objectives to begin with. We went through this matter of establishing the fact that there wasn't any difference in the climate and that there hardly wasn't any difference in anything else. But Napa County had a thirty-five year head start on the use of premiums and creating a label reputation with the premium (grapes) and we had to develop a reputation before we could even think about equality or anything else. Some of the growers accused me of wanting to have them be the best. I don't think that is what is going to happen. We'll be equal and it is up to the vintners to use the raw material in a way to produce world class wines, they can fight it out with their labels. The raw materials are going to be equal.

There are really no statistics that exist that say now they did this and we are even with them here and here and here. They don't exist. I think that I really began to feel comfortable that we gaining ground when the big media in the Bay Area quit zeroing in on Napa County continually, and in today's world it is the Sonoma-Napa Wine Country that gets the titles when most people talk about it. That says it in its own light. Although there was one occasion, it was a pleasant thing for me, we had an annual conference in Davis with all the county directors in the state once a year and the state director was there and the vice president of the division was there. And they decreed that we were going to have a competition with wine. And that every county director was going to have to bring a bottle that was representative of his county and put it up and have a contest. I don't know who the judges were, probably somebody from enology and viticulture on campus. Well, we will see what we will see here. At that point in time we didn't have all that many of the premium wineries that we have know. One of the leaders of that period was

Chateau St. Jean down in the Valley of the Moon. The president of the outfit that was there was formerly one of the Champagne enologists for Korbel, Alan Hemphill. And the other one was a Cracker Jack winemaker, Dick Arrowood. And I went to down to see the fellows, I said, "This is what I have to do, I have to come up with something that says 'Yeah, this is as good as it is. And let's see what happens.'" They said, "Okay, we've got just what you want. This year we are really feeling good about the Robert Young Chardonnay that we have. Why don't you take that with you?" So I took a bottle and two or three others. I figured we'd be in the running and I wanted enough so everybody could have a taste. The competition was carried out and we won it going away, and Napa County wasn't even part of the consideration. So the next year they decided they were going to do this again. So I went back to Chateau St. Jean and I asked the two fellows what they felt was the good thing for that year. And they said, "What we have at this time is a blend of Robert Young and Ron Dick's Belle Terre and it was another Chardonnay." So I did the same thing, and took a bottle and a couple of extras and it was no contest, we won that one going flat out away.

Simons: Tasted blind?

Sisson: Oh, yeah, this was all blind tasting. Then the third year they wanted to do it another time, we did the same thing and I wound up taking another Robert Young Chardonnay over and it won hands down and that made it three in a row. And at the conclusion of the competition they decided they would do it a fourth time, *however* I was barred from entering. And I considered that the ultimate compliment.

Simons: Do you know what year that was?

Sisson: Well, no I don't. That was back in the time when Bob was just getting his plantings far enough along to produce that kind of grape. It was after '64, I can guarantee you that, late '60s early '70s, somewhere in that range. To take Napa apart three years in a row, and everyone else in the process told me a considerable amount about the way we had progressed toward becoming world class capable. That is what this thing was all about.

Simons: You did not go in depth on some of the more important insect and insect like problems in the vineyards that you have worked on in depth yourself in part one.

Sisson: Very true and that was a bad oversight. Our grape growers have continually been criticized by elements of society, mostly the urban sector, for what they perceive as unnecessary and undesirable use of chemical pesticides. Our growers and vintners must accept most of the blame for not making a bigger deal and much more noise about their total widespread use of biological controls wherever possible to deal with the problem and some of the criticism.

This leads to a discussion regarding the total use of a resistant rootstock to fight the plant louse *Phylloxera* a long time killer of *Vitis Vinifera* grapevines. *Phylloxera* is an American soil borne insect that was introduced into France around 1868 and wiped out the majority of their vineyard acreage. It showed up in Sonoma County in the mid-1870's and wiped out most of the 60,000 acres that were planted here then. *Phylloxera* resistant rootstocks have been used successfully for biological control ever since the replanting began after the first disaster. This needs to be given much more public exposure by all components of the wine grape industry. Resistant rootstock research has been intensively in progress in Sonoma county since *Phylloxera* resistant rootstock use was begun. When I first began my

research work with the vineyards in 1950 many rootstock species had already been tried. Not all had a high enough degree of Phylloxera resistance and others were poor understocks and did not do a very good job of supporting the desired clone of the bearing variety. As more of the U. C. Davis Department of Viticulture professors joined in on my research work that had resulted from the original Bud Mite project many of the until then little known or slightly understood aspects of North Coast grape growing began to surface. U.C. Davis professor Harold Olmo identified a large number of assorted supposedly Phylloxera resistant rootstocks, about sixteen, including such varieties as Riparia Gloire and V. Lenoir mixed in with the others. On a broad scale as far as Phylloxera resistant rootstocks were concerned Rupestris St. George was most widely used. This was and remains an entirely satisfactory defensive Phylloxera resistant rootstock, however, it is only mediocre as an understock. Rootstock research interest by U.C. professors was then on the rise and U. C. professor F. T. Bioletti established numerous, at least sixteen rootstock trials in Sonoma county in the early 1920's. these included V. Aramon X Rupestris Ganzin No.1. (AXR-1), and the Mourvedre (Mataro) X V. Rupestris (1202) crosses. About seven rootstocks were included in his trials. For a rootstock to perform satisfactorily it must not only protect the bearing variety from, in this case, Phylloxera, but it must also function well as an understock. AXR-1 was rated as the best all purpose rootstock for the coastal counties then. U.C. Davis professor H. E. Jacob stated in a paper he presented at a statewide conference for Agricultural Extension staff in 1938 that the AXR-1 and the 1202 were the best rootstocks for the coastal counties at that time. Both Jacob and Bioletti recognized that both of the stocks gave only partial protection under European conditions. However they had done a completely flawless job in California. I reviewed all of Bioletti's trial data in the early 1950's, more than 32 years after AXR-1 and 1202 had been planted in what was then Phylloxera infested ground. There were no failures or any signs of

weakness to protect against Phylloxera in evidence in the field any where in the county and the AXR-1 displayed altogether superior understock performance.

It was not until about 1982 or 60 years after the first plantings that a mutant or smuggled in strain of Phylloxera began to defeat the AXR-1's protective ability. In the meanwhile, my own rootstock research has revealed the existence of several highly Phylloxera resistant rootstocks, that until my research trials were completed in the mid-1980's, were little known and relatively untested as potentially superior understocks. These are the (5C) an Alexander teleki V. Berlanderi X V. Riparia. a highly Phylloxera resistant cross, and (110R) a Richter V. Berlanderi X V. Rupestris cross also highly Phylloxera resistant. Both of these rootstocks have shown significantly similar yield capabilities when compared to the AXR-1. Both displayed a significantly higher brix reading at harvest and the (5C) was significantly better than all the others in the trials in terms of total acids. Both have been recommended over the AXR-1 and all the others since the early 1980's. A third rootstock, SO4, which was mistaken for (5C) early in the life of the trials also showed promise in its own right. SO4 is a Teleki Berlanderi X V. Riparia cross correctly identified by U.C. Davis geneticist Carole Meredith using DNA procedures.

The trials that provided the forgoing data were intended to be the first in a series on bearing varieties grafted to promising Phylloxera resistant rootstocks to determine whether or not other favorable match-ups might exist between superior Phylloxera resistant rootstocks and most of our world class premium varieties. Unfortunately, I ran out of time to complete the series and to the best of my knowledge the work has not been continued. There may be more favorable match-ups but only extensive field testing can provide this data.

Robert Young, Dale Goode and Russ Green's Alexander Valley vineyards deserve a large thank you from the rest of our wine grape growers for allowing me the use of large pieces of their vineyards along with no small expense in making our rootstock trials possible. Only this kind of assistance over the years made this kind of research possible.

Simons: You have gone into depth with Phylloxera and the Bud Mite, were there any other insects being held responsible for other problems?

Sisson: Yes, there were Bo. As usual there are always interesting cases. We had a situation, particularly up in Dry Creek for some reason, good growing conditions and good soils to boot. On particular years no one was paying that much attention to them, until I started to run a study on it, we had run into a case where we would get severe shatter during and at completion of bloom when the clusters were setting. And the growers were obviously concerned about this, they started looking the vines over very thoroughly. And they found thrips and Springtails, collembola, which is a small insect. And they wanted to know what they had to do to get rid of them, they couldn't stand that shatter. After I had a chance to really dig into it, it turned out that the thrips and the collembola were in the vines every year. It wasn't just the year when this shatter took place. And that the real reason for the shatter was that we had had an extremely supportive spring of good growing conditions and the vines were growing so darn fast that they just blew up when they got to bloom and it is one of these conditions that to this day there is no way dealing with it. It's like when you have rain during harvest and knowing that you are going to get bunch rot. You just have to grit your teeth a little bit if it is one of these springs, they start early and go like a bat out of heck, we will have some shatter. The whole thing here was that it cut off any use of chemical pesticides to control something that really wasn't

doing anything (negative). It wouldn't have changed the situation at all if they had gone in there and sprayed. I called it Vegetative Shock as a name to identify it and it stuck. It is still being called Vegetative Shock.

Simons: It had nothing to do with the insects.

Sisson: It had nothing to do with them. They are in the vines all the time, and nobody pays any attention to them. And in this instance they were about to get blamed for something they didn't have anything to do with just like the old Bud Mite was in the very beginning.

Then we were also at the winding down period with the Bud Mite study, after having thoroughly shown that it wasn't what it started out to look like. And all these other things suddenly began to attract attention where they were hardly even paid attention to prior. We didn't have the University staff in the Department of Viticulture over in those old days, as happened when I really got this Bud Mite thing down so we could chew on it. There were times when I had as many as eight or ten UC Department of Viticulture staff professors in the Kunde vineyard down there in the Valley of the Moon. I say this in all fairness, prior to that Bud Mite thing the (San Joaquin) Valley owned Davis, what the valley wanted, Davis gave them. And what they wanted from the Department of Viticulture and Enology they got. And the profs were happy to be in Sonoma County, for a change. We had an experimental vineyard over in Napa County, that was an old USDA site that the University picked up. So there was some work being done that was North Coast oriented, but it wasn't anything like it became after that Bud Mite, because everyone wanted to find what the heck I was doing. And why I was turning the old conventional wisdom picture upside down with having things happen that weren't supposed to happen. They were over here to check it out. So we started recognizing viruses that had previously had been

called some other name. One of the important things was that the efforts of the nematologists and the plant pathologists paid off to where we suddenly became aware that some of the nematodes were vectors of some of these viruses. And one in particular, which might sound like the worse virus of them all, but it isn't, is Fan Leaf. Which will kill the vine. Now, that is a blessing in its own way. We have another virus that doesn't kill the vine that is known as Leaf Roll; and it doesn't hurt the vine at all it just interferes with the photosynthesis and the infected vines will trail sugar accumulation of the uninfected vines by about five or six brix points. So if you have a situation where you have 10 percent of your vines that do have the infection and 90 percent that don't, the 90 percent are going to be up around 23-24 (brix), the desired picking level and the others would still be under 20. You can counter some of this by letting the 90 percent go a little bit longer and field blend the sugar. But that is only if the infected area or the uninfected area is very narrow. The nearer it gets to 50-50 the worse the problem becomes. Because then you really only have one option and that is to double pick. And that means that you are going to have to go into the vineyard and identify the vines that are showing symptoms of the virus, mark them and leave them until you finish all the uninfected vines and then go back and go through a second harvest. And that is economical murder. This is the case with the Leaf Roll. When I called it a day, we had no idea of how Leaf Roll was moved, other than by man, we moved it ourselves. I had a couple of instances of catching, in effect I'll be blunt, I caught them doing it. A couple of nursery guys in one of our vineyards who had permission to go in there to take bud wood. And I knew that the block that they were taking that stuff out of was about 60 percent infected. So I said something to them, "Don't you guys realize that that block is full of Leaf Roll?" "Oh, we can tell the difference." And I promptly turned around and walked the other way there wasn't going to be any arguing with them. And this was how it got moved around, by carelessness or whatever. That was the story with the Leaf Roll.

But the story with the nematodes which had been almost virtually ignored up here. Now, in the valley they've got a different group of nematodes, root-knot nematodes and other types that directly attack the vine and wreck the root system. Our nematodes merely have to bite to pass the virus on. It has become a very, very difficult situation. Now we have a rootstock that is being used that is supposedly going to provide some biological control against moving Fan Leaf and hopefully it will. One thing that can not be ignored in this whole thing is the fact that you can not eradicate a mobile life form in the soil. You can't eradicate nematodes, you can't eradicate phylloxera, you can't eradicate any life form that can move around. We *can* eliminate Oak Root Fungus, as I said, and I did a lot of research on that. But it doesn't have the mobility that the nematodes and the insects have. So we are kind of up a creek on being able to do anything that isn't a barrier type thing as is in the case with resistant rootstock. Hopefully that will be the case.

In the first couple of years since I have been long out of it, almost, I have never been completely out of it, we have another insect that has appeared on the scene that is a new form of mealy bug that previously wasn't here. And it appears that they may be able to vector Leaf Roll. If that is the case, if we can control the mealy bug then we may be able to minimize the chance of Leaf Roll getting involved.

Those two were the known ones until we got the newspaper headlines on the Glassy Winged Sharpshooter. This guy is a fascinating study, Bo. it is a new insect to California. However, its native home is in the Southeast—Virginia, Carolinas—back in there. That is where Pierce's Disease is so bad that you absolutely can not grow a *Vitis Vinifera* vine, which is what all of our premiums are, genus and species. It is interesting that I helped the Ag

commissioner develop some presentations earlier when this thing first got started reminding him that it is something that isn't all that new. They can't grow Chardonnays and Cabernets back in that Southeastern part of the country because of Pierce's Disease. And the Glassy Wing is native to that part of the country. So we have a situation where we have the vector and we have the disease and we have grapes.

On that note, I would like to say that we have always had a complete knowledge of the vectors that can move Pierce's Disease in California, and at our end of the state that is the Bluegreen Sharpshooter. They usually hang out in the wild stuff on the end of the vineyard, and move in a little ways and cause some problems with vines here and there. They are weak flyers and they have an interesting habit of feeding, almost entirely only on the newly emerging extension of the shoots in the spring. So it prevents you totally from doing any spraying to try and control them because we would have to go out and spray every day to do any good at all, which is ridiculous. Along with that knowledge we kind of tolerated the fact that we were going to lose some vines occasionally. And there have been instances that I have seen where they have taken out whole chunks of vineyards. In fact, Pat Paulsen's place up in Cloverdale (Asti), I had helped Pat when he was trying to grow grapes. We lost one block of his vineyard to the disease. This Sharpshooter guy is a whole different breed of cat, he is a very strong flyer, much larger than the Bluegreen Sharpshooters, they can penetrate into and through a vineyard with ease even if there is a breeze blowing. They don't care what part of the vine they feed on, so they are just as likely to chew on the shoot itself or the petiole of the leaf or anything. It is not confined to an inch and a half of new growth on the end of the shoot. So they are posing a major threat. We will just have to see how well our present day entomologists are able to deal with them.

There is one hope in this thing, that they may bring with them, as I said the disease, the insect and grapes are all back there in that Southeastern section of the country, the point is that the grapes that are grown there are North American natives and they are either totally or highly resistant or immune to Pierce's Disease. So that brings up the thought that there must be genetic resistance involved. Whether they have immunity or a high level of resistance is moot. The point remains that this is something that in time the genetic engineers may be able to get a hold of and do some good. Because if they can take that genome apart, which they are doing, and then identify the specific gene that gives the Rotundifolia and some of the other varieties that grow there their resistance or possibly immunity. If that were to happen then it could be that they could implant those genes into our premium varieties. Unfortunately this is going to take a lot of time.

Simons: It isn't something that you can just whip out.

Sisson: No, it isn't something that you can just whip out. They can do the technique work, they can make the implants, but then they are going to have to let them grow for five or six years as an altered vine of Cabernet or Chardonnay, or virtually all of them. And then run them through the wine making process and see if we still have Cabernet or whatever. Because we are never going to know without going through extensive field testing and then winery testing, what this implant may or may not do in addition to giving us resistance to the bacteria.

Simons: And might the genetic alteration change the plant in a way that might open it to something that's here.

Sisson: Yeah, any of these things could happen because we are dealing with unknowns. The whole field of genetic engineering is full of unknowns and people fear unknowns.

The thought that I had when I first spoke to Carole Meredith, she is one of our profs in Viticulture and a genetic engineer, that I envied her field of discipline because it is going to be one of the most exciting things in her time that you could possibly be in. She is a real sharp person. But the point is that there is so much that can be done here. The voices will quiet. You don't go to a country where the people have barely enough to eat and say, "We can't give you this new strain of rice even though it will produce three times as much as you are getting now", and have them hear you. That is the kind of thing that is going to break the fear factor down. It will just clean it out.

So our main concern now is what we may have to do if that Sharpshooter gets loose in the North Coast.

Simons: You mentioned doing some weed control work, that was in the earlier part of the interview. Was your interest in weeds in general or were there some types in particular?

Sisson: Actually Bo, we had to be concerned about all of the weeds because they are all something that are a pain to the grower. The ones of the most interest to me were the ones that we couldn't deal with like Johnson grass and Bermuda. They are really a bad thing for the growers. They are summer growers, they compete for water, we tried every herbicide that anyone had ever heard of, from oil to anything that you can think of. We did this in the hope that we just might find something particularly that would take Johnson grass out. And one did come along it was it was known as MSMA, I never

knew of a name for it. A lot of the stuff that I had to work with never got past the numbers. The MSMA did a beautiful job, we put in a research trial in Alexander Valley and everybody was enthusiastic, as it just took Johnson grass out like it was never there. Unfortunately, Food and Drug wouldn't clear it. And the reason, I'm sure, was because that it was an organic arsenical and the minute you say arsenic red flags go up and it has never been cleared for vineyard use, I don't know whether it has been cleared for anything. Happily, a short time afterwards, about six-seven years after MSMA went off status another material appeared on the scene. It had been developed by Monsanto, it was known as Glyphosate, it's common name is Round-up. And that one is as much a panacea as is possible to get, I think, in terms of weeds, because it really does everything you could hope for if it is used carefully. That was an interesting thing for us in particular, "us" meaning my staff and I, because Monsanto had to go into a full field testing program before Food and Drug would even talk to them. Everything they had done in the laboratory was great, that was fine. And they needed to get out and have an application made in a vineyard with a grower's equipment and with the grower's help. So I had my agronomist, Lloyd Harwood take on the job. He was supervising it. We did everything that had to be done. It was a number of weeks later, that the Monsanto people sent their field representatives up here and the whole group of us went up to the vineyard which was really just across the street from here, on the other side of the freeway. We were going to inspect that thing with a fine tooth comb to see if we could find evidence that the vines were being adversely affected. And I happened to wind up on a row that was directly across from one of the Monsanto supervisors, and he and I were working the same row from different sides of the vine, commenting on how well it had taken care of the weeds that we wanted to get rid of the Bermuda, the Johnson and a third one that's Ground Kelp. These we had never been able to touch with anything and Round-up took it out. So we kept going, but I noticed that a few of the

vines had a very minute amount of yellow chlorotic spotting, so did the Monsanto gentleman. And he was becoming more and more nervous all the time, and when we finally got to the end of the row, I commented on how well it had done its job. And he was immediately concerned that this chlorotic spotting would set them back. And at that moment the grower himself came out. And he walked up and down two or three of the rows and looked at everything, and he looked at that dead Ground Kelp, and said, "You know, I don't give a damn what these grapevines have in the way of a yellow spot or two, the way this stuff is doing its job I would use it without even hesitating." And Monsanto went back to their work and went ahead with the clearance process and you know the rest of it, because everybody and their brother uses it in their backyard and in every other place. We actually had a hand in getting the material cleared.

Simons: The field trials were done here ?

Sisson: Yes, the field trials were done here. It was all done all according to the book and everything worked out just about as well as it could. Sometimes things do work out.

Simons: What was the primary reason for developing grapevine certification?

Sisson: Well, we've already talked some about the viruses, and that was primarily the reason that the program was put together. This was a statewide program that included all of UC's resident viticulture people and all the grape farm advisors. We all got involved in searching for what appeared to be the cleanest stuff that we could possibly find. And then getting it over to UC Davis where they could run more definitive tests on it.

Simons: Make sure it was virus free.

Sisson: Yes. We were getting to the point where we could come up with procedures that tell you, yes, this is Leaf Roll, or this is Fan Leaf, or whatever. The program was intended to create a fund of super clean plant material. And at the same time we were trying to improve the quality of the various varietal clones, to establish the presence or absence of disease as well as a high quality type of growth. It lead to the formation of the Foundation Plant Materials Service at UC Davis. This is the primary base from which all the commercial activity developed. We have certified vineyards all over the place now and that was what came out of this early certification work. These things take time, as you can well imagine. And you have people that are in a big hurry and it got used before it was really ready to be used in some cases, but it was always better than anything that had ever preceded it. It was probably one of the best programs that has ever been developed for the reasons that I gave you.

Simons: Everyone attests to it and says that it is one of the backbones of the industry. Now, was there any resistance when it was started?

Sisson: No, the only thing that surfaced, was the speed factor.

Simons: They wanted it done yesterday.

Sisson: They wanted it done yesterday, and our people were being conservative, they were not going to turn this stuff loose until we were reasonably certain that it lived up to the reputation we want to have created for it. And people got a little bit impatient. But it looked like something that could come out of a research job that was going to answer some serious questions. It is understandable that they get a little bit antsy.

Simons: Yes, it's like the cancer patient's who can't wait for the wonder drug to come along.

Sisson: Yeah. That is the way it works. At the present time I would say that it is full bore, that we have all the necessary nurseries in business doing the job that needs to be done. And we will get into some of the other reasons shortly.

Simons: Which leads to—How much has grapevine propagation changed since the switch from standards to premium varieties?

Sisson: That is a good question that I said that we would get to one of these times. Actually it didn't matter so much whether we were changing from standards to premium. It was a question of not doing what they had been doing, the old conventional wisdom again. In the beginning, in *my* beginning, there was very little planting. If anything they were taking vineyards out to make sheep pastures out of them. We dropped from 20,000 to 9,000 acres in just a few years. And I didn't care, really. The ones that came out needed to come out and be replaced with some of the quality stuff that we were shooting for at that particular time. The whole way that they did things in those days was by budding, field budding. The Europeans used grafting exclusively. They didn't bud anything as far as I know. But we did. And we did because it was cheap, you could go to your neighbor's place and get whatever you needed from him, to a point. And then we would go from there. It was mostly budding. Labor was involved. Cost was a factor. And they just weren't ready to accept grafting as an acceptable way of doing it. Even though, and yet, all the European vines were grafted. That didn't make a lot sense to me either, but when we got going some serious things reared their head. One was the availability of certified propagating wood, it was in short supply. And that hurt. And we had to look at what we were talking about with budding. In order to bud a vine you have got to have your rootstock growing through the

summer in place, you've got to wait until the mother vine, from which you are going to get the bud wood, has matured from shoots to canes to the point where the stuff is usable for budding. So that means we are talking about early September, and the ripeness of that wood, the maturity of that wood is critical. That is one of the things that had to be done. The second thing that came up, and had always existed really, was you just didn't go into somebody's vineyard and take a good looking vine and take all the canes off of it that you felt like taking. There had to be some very clear lines drawn. How many canes can a vine spare that early in the fall when they are still active? And it turns out that maybe five or possibly six was about as many as you dared take. That cut down the amount of potential bud wood that you could use. To give you an example; if someone was going to plant a 40 acre vineyard we would need 450 buds per acre. Now, a vine count on 8 X 12 is 413, but you are going to wreck some, you are going to find some that are damaged, you are going to find some that are unusable. So we are going to have to increase that by about 10%, so you need 450 buds. And in order to get 450 buds, if we can get as many as 10 per cane, we are going to need 45 canes per acre. Then we are going to go down to how many source vines we need to get those 45 canes, you got to have 9 vines. The equivalent of how many canes they can give off. Which is talking about needing about 350 mother vines for the 40 acres that you want to bud. So they would have to be gone through and checked carefully for virus, if you are going to do it right, we are taking about 9/10ths of an acre of mother vines for the 40 acres just for the bud wood.

Once we got going with grafting, and that got going rather quickly with the certification thing coming in. We had a whole different world to deal with. We didn't take the wood off the vines until the vines were ready to be pruned. So we had everything that was growing on them, except for what had to be left to furnish the growth for next year, which increased the supply

of scion wood tremendously. It eliminated any chance of it not being as mature as it should be because we were in the middle of the winter anyhow. And all of these things added up to making bench grafting a very superior way of doing it. And that is really how this thing came into being. With the premiums, why again, it was a matter of availability of sufficient quantities of the scion wood we needed. And this is completely under control now. I think that we won't plant as prolifically as we have been doing for awhile. We shouldn't have any problems with this.

But there was a major change from budding. The other thing about budding, was that it was at the mercy of the weather. When you budded those vines in early September, and this is why they were able to do it all those years, it was rare that we got any serious rain that early in the fall. It was necessary to mound enough soil to cover the newly placed bud completely. It was even more important that the bud be protected from becoming soaking wet for at least ten days. Two week was even better. The reason for this is still not fully understood. If we got enough rain from a storm in early September to wet that mound you could figure probably at least a 50 percent loss of the buds that you had put in come spring.

End tape side one.

That happened at the Gallo Dry Creek place (Frei Ranch). Julio and I used to have little discussions continually, more often I was talking to his Chief of Staff Paul Osterous. But they were going to bud this field over to something that they wanted to have in place of what had been there. We had already gone through one little difference of opinion on that field because they didn't let the vines grow long enough before they pulled them out. I wanted it as dry as it was possible to get it before there was any pre-plant fumigation gassing done. And as it turned out he and I went around and around for

awhile. They brought up the (San Joaquin) Valley techniques, that they were used to. And I was trying to get Julio to understand that this is the North Coast and we have a different set of climatic conditions than he had down there. Techniques where you are coming from 'just ain't going to work here'. The field was planted to cover crop for the winter and dried properly the following summer before being preplant fumigated.

Simons: It called for different practices.

Sisson: Yeah. So they went ahead and did the budding job, everything was fine. And about five days after the budding was completed it rained hard. And we all knew that if those mounds got wet we were in trouble, and no one knew why. I didn't know why. We assumed that it might be that they were in constant contact with the wet environment inside the mound. So Paul Osterous and I went out the next day and broke down all of the mounds, broke them down completely. So that (the wet environment) couldn't possibly be the reason. Whatever the real reason was is still an unknown. The following spring, 70% loss. And that doesn't happen with bench grafting. So the availability of ample supplies of fully mature certified scion wood and complete protection from the weather is really what this is all about. And that is why budding simply has faded away and grafting has taken over. And that is probably the reason that the Europeans did it that way to begin with, because they went through the same process at some point.

Simons: Were there any other new or changed propagating techniques introduced?

Sisson: Yes, Bo, a third new method of field budding was perfected by Dr. Curtis Alley of the Department of Viticulture at U.C. Davis. This added up to implanting a "T" or Shield bud into a grown mature vine to change the

variety and be back in action rapidly without having to completely replant the block or the whole vineyard, for that matter. We held several field meetings to demonstrate this technique including one at Dick Hafner's vineyard. It was necessary to emphasize that all that could be changed was the variety however. If the vines already had a systemic disease, a virus for example, it cannot be eliminated by using this method. The whole vine would have already been completely infected. We almost lost a large amount of our Cabernet Sauvignon plantings in the Coastal Warm regions out of fear of the many large plantings of that variety going in Monterey County at that time, but most of our growers accepted my insistence that the Monterey plantings wouldn't make it because they were misplaced climatically. Many acres were planted almost on the beach. They were ripening in December, what was left of them, and ultimately, had to be pulled and moved to a warmer location. Our Alexander Valley and Dry Creek plantings were mostly left alone to everyone's good fortune later on. After the Monterey scare calmed down, interest in the use of the new technique dropped off. I have seen very little use of it since. However it remains as a tool to be used if market conditions change or some other reason comes along.

Simons: You mentioned earlier that some nutrient elements took on a much larger role after the Bud Mite was eliminated as a problem. Were there any elements or microelements in particular that stand out?

Sisson: Yes, there are two that stand out as far as I'm concerned and one of them was boron. Boron is really a microelement, this was the follow-up to getting some answers about what the Bud Mite wasn't doing, and still happening. And everybody was trying to figure out what else was causing this. And we found out that some of it was due to nutrition. Boron wasn't known to be of any concern earlier than the beginning of the Bud Mite project, and really

had nothing to do with it as an unique project. The whole thing in a nut shell was that we were also hung up on no irrigation.

Simons: Dry farming.

Sisson: Dry farming. The problem with boron was two fold, the window of acceptability is very narrow, ideally, they want to see the amount that you get on a tissue sample somewhere between 25 and 50 parts per million. Below 25 parts per million you were going to have a deficiency, and that is not a difficult thing to take care of. And above 50 parts per million, on an increasing scale, we can burn the whey out of them. And that was actually what we were trying to avoid. Now, the minute we started using supplemental water, water management, if you like, if I like, it became abundantly clear that the west side of the county tends to be deficient in boron. Also, deficient in enough water to do anything with, too. The people down in Two Rock and that area have tried every way you can drill a hole to get a little more water, almost with no success. So the boron over there can be down in this below 25 parts per million range. On the other hand, the east side of the country, look out! I have run onto boron excess problems from Cloverdale to Cameros. I mean it depends on the aquifer you are in, this one chap was on River Road, Cloverdale's River Road, and he was having problems with his vines burning up. I asked, "Where is your water coming from." "Well, I got a well up here. He could have been down with the well 90 feet from the river if he wanted to. The river is not a problem. But he was taking it out of this aquifer and it was too much. I told him, "You're going to have to stop irrigating with that water." And that was it. The minute he quit and shifted down and got his water from seven steps from the river everything was okay. (The increase in boron) just progressed as you went on down (the county).

Back in the time when I was working with Frank Bartholomew, Frank was the owner of the original Haraszthy Buena Vista (Winery) I had already run some climate studies recordings in the area below him, down in what is now the Carneros district. That whole thing was not used below Highway 116, all the way over at the Napa River it was not used, it was oats or some other thing. Napa wasn't using their part of it either. There was a chap down there that was a cattleman, Wess Hare, so we went in to Wess' place Frank had somebody, I guess it was Young Brothers market that handled his products, they were going to put their own winery in and they wanted me to evaluate this property. I was going to go in there and we were going to do a backhoe examination so see how deep is deep. And then we are going to run a water test to make sure that what is there could be used. And it turned out that we had 400 parts per million boron, and you didn't even dare wash out the floor of the winery with that water for fear it might trickle down under the vineyard. That's how much this can yo-yo back and forth. It is even at the mercy of a low rainfall winter. I had some fellows that were up in Windsor and there was some burn all of a sudden and they had been using their water without a problem. It turned out that it was boron toxicity, and that the aquifer from which they were getting the clean water had dried up on them. And the other aquifer, that was part of the feeding process to the one that they had lost because of the dry winter, was too high in boron. Boron is very touchy and it can not be ignored because you have to have enough, but if you wind up with too much you'd wish that you had never seen it.

Simons: What about potassium?

Sisson: Potassium in it's own way is another marriage that is like the boron. We were trying to find out some answers down in the Kunde vineyard. The whole thing with the potassium was that in order to do anything with it you have to use massive dose therapy. If you need it at all, it is going to require

about six pounds of potassium sulfate, preferably, per vine carefully placed under the drip zone so that it is all going to go into that root system. That is an expensive thing and the book says this should be dug in, this should be trenched and then treated at the rate that is needed and then covered back up. And I am thinking that this is going to cost the guys an arm and a leg, and I'm not so sure where the recommendation came from. Because so many of those recommendations were based on atmospheric conditions that are kind of indigenous to Davis or down in the San Joaquin. They don't have our kind of rainfall down there. I got to thinking we have 30, 40, 50 inches of rain and that may be enough to move it without having to go to the expense of doing all of this digging. So I set up some research trials, I found out that we could get penetration and carry the potassium down without digging and that was another research job that paid off.

Simons: You still needed to put the potassium down?

Sisson: It had to be placed very carefully.

Simons: But not the trenching.

Sisson: You could have a container that would hold six pounds and carefully pour it around the vine 360°. And that was all that was needed because we get enough winter rainfall to move it into the root zone without having to dig it down a foot. Our only real concern after I found this out was that we use the right kind of potassium compound. I had a call from one of the Kunde brothers when they had a ranch up in Hopland, again it was about 2 o'clock in the morning, it was Fred and he said, "We just found out while we were treating with potassium, that what they are delivering to us is potassium chloride." And that can be deadly to grapevines. "What are we going to do?" "Well, the first thing is quit putting any more out. And the second thing is to

send back everything that you haven't used and get them to send you the correct stuff. Because it should be potassium sulfate and as far as cleaning it up, the only thing I can think of is to get a skip loader in there and scalp the rows." So they did, they got two or three skip loaders and ran in there and took all that stuff off the top and threw it away. If he hadn't been on top of it, it could have caused all heck to pay. So, that was the story with the potassium. Again it is a very necessary, very valuable nutrient element and one that we have to have in the right amount, particularly in the right combination.

Simons: Are there any others?

Sisson: Yeah, there is one other thing that I found be to be a real interesting situation, Bo. It had to do with the Merlot. Some of these clones do some strange things once in a while. Several of my growers, Stephen Zellerbach was one, and one of the fellows over in Dry Creek was another, and they were having a very serious shatter, just like this thing with the perhaps a similar type of a problem. "We have got to find out what is going on here. Have you run a tissue analysis?" Because I was kind of adamant about people doing that, because it is the only way you can really know what is happening. You can run soils all day, it tells you all sorts of things, but it doesn't tell you what has gotten into the vine. What we found out was that the desired level of nitrogen that we would get back on a tissue analysis was about 800 parts per million, so that was what we were shooting for. When they ran the trial tests on the Merlot it was three times that high, 2400. So, that got us kind of interested in what the heck was happening here. This was under the same soil, under the same climate, and getting exactly the same management treatment. So whatever one got the rest of the stuff in there got the same thing. The guy over in Dry Creek was even better, he had a block of Cabernet that was separated from a block of Merlot by an avenue, and

that's all of ten or twelve feet apart. And it was the same situation, the Cabernets were sitting there showing 800 and everything was fine and they were setting like they should, and the Merlots were sitting at about 24-2500 and shattering strongly. It got to the point, and I gave it a name of nitrogen accumulator and somehow apparently this clone almost takes nitrogen out of thin air. This only happened in winters with relatively low rainfall. You have a high rainfall winter, they set fine. A low rainfall winter, look out; because you are sure going to get the shatter. And that was where we were with the Merlot. And I'm not sure to this day whether or not it was the clone of the Merlot that they had gotten a hold of. Something has occurred to me in prepping of a lot of this stuff we are talking about. I recall way back in the very, very beginning at the Monte Rosso Ranch of Louie Martini's up out of Aqua Caliente, he had a block of Chardonnay that wouldn't set. They just wouldn't set, they would shatter and blow all to pieces. I think that he finally took them out and replaced them with something else. It is possible that it is a clonal thing, that this particular clone just tends to do that. Whatever the case, I said, "There is one thing that we could do if it become absolutely necessary to do something. And that is to buy a whole bunch of sawdust and incorporate it down the Merlot rows." The decomposition of cellulose requires a whole bunch of nitrogen, and you might be able to pull some of that nitrogen that the vines were getting out of the ground with the decomposition of the cellulose. And that's where it stops. Because I don't know whether anybody tried it. I am still of the opinion that it might help us solve this problem. It was something that was for sure happening, you don't always come up with an answer.

Simons: The best questions are the ones that are persistent. You have used the term "conventional wisdom" a lot. Were there any other examples?

Sisson: There were are a lot of examples, because conventional wisdom is something that goes back to the beginning of eternity, I guess. One of the ones that comes to mind was the absolute belief that if you used anything to dig a hole to plant a grape vine in but a shovel it wouldn't work. If you used an auger to drill a hole it would glaze the hole and the vine roots wouldn't be able to get through it. And our growers were convinced that that this was the way it was. I said, "You've got to be kidding." That was the line of thinking, the conventional wisdom. When we got into getting serious about getting some of these large scale plantings going, you couldn't afford to even think about doing it by hand. But they had this stuck in their minds. And then there was another thing that was conventional wisdom and that was the disposal of the prunings. This goes back to the original guys in the very beginning, they would prune their vines, and then they would pack all those prunings out of the vine rows, get them on a sled and haul them down and make a pile out of them and burn them up. They rationalized this with eliminating any chance of having something carried over, insects or disease from the vines to the next year. Anything that was there that could be carried over was already on the vines to begin with, so moving that stuff out... the primary thing that it accomplished was to burn up an average of one or two barns and several outbuildings every year burning up these prunings. And that happened over and over again. I think that another reason was the close planting. They didn't have any way to get equipment into the rows. A grape cane is not very high in cellulose, and they disintegrate if you just run them over with a disc, which is what the guys do now, you won't be able to find a trace of what was left by the end of summer. They just disintegrate and disappear. But they couldn't get in those narrow planted vineyards to use a tool like a disc or a disc plow or something like that. And as a consequence, why they stayed with the burning and that kind out died out, went away when you got all the new guys using the compost and wide spacing, they

know better and you didn't have to worry about it. That was another example of conventional wisdom.

There was also a necessity to change the training and pruning of the vines and again it was conventional wisdom. When I first started talking about this business of which varieties we really would be best off working with to start with. I had some of the established growers blame me for trying to get them to grow these "darn, small, clustered premiums that only produce three quarter ton to the acre." And they were serious. If you head trained and spur pruned that is just about what you would get. They didn't know how to do it, with canes or with cordon spurs. And again it was conventional wisdom that got in the way. We changed that rather rapidly the minute we started in with cane pruning. You could figure a big old cluster of Carignanes could weigh a couple of pounds. But when you get into Cabernets, Pinot noirs, or Chardonnays, five to the pound, maybe, five clusters to the pound that is. It does make a difference. So, you have to get a cluster count that is going to give you some reasonable production. I tried my dardest, it took me quite a little while to convince them that if you do it right a Cabernet is quite capable of eight tons to the acre, and I'm not so sure that we want that much per acre no matter where they are. Although even that amount can be handled in upper Dry Creek or over in Alexander Valley. It is just a matter of doing it in a different way. It's just conventional wisdom, so, that is how I use the term.

Simons: Did you look into any other ways of measuring climate support?

Sisson: Yeah, I did. I ran onto a paper by a gentleman out of Oregon State that was adamant about the efficiency of using degree days, which I could agree with him on, and some other ways of doing it. His approach was to use incident solar energy, now that was an interesting thought. I got to thinking about

using that just to see what would happen, because it is a matter of measuring things in terms of Langleys, which are gram calories per centimeter squared. they can be measured on a recording instrument a pyrliograph I believe is what we had to use. And I had a couple of the growers that were willing to buy me the instruments so that we all could get some research out of it. I said, "Fine because I would like to find out. Because I have the feeling that the real Coastal strip area got the fog earlier than everybody else, and it took longer for it to burn off than it did for anyone else. The way the intrusion works, it came up as far as right here to Healdsburg and stopped. And then at night, when it didn't matter, it would move on up maybe up to Cloverdale into the Alexander Valley and it would burn off by eight o'clock in the morning. So, it didn't matter. But I wondered about the persistence of fog in the Coastal cool zone areas. So we did some serious testing, and I found out that it didn't work quite the way I thought it would. And that was really an interesting thing. I was interested in measuring some of this impact between the Coastal stuff and the interior with our warmer areas in Alexander Valley. We gave it a try.

Simons: What did you find out?

Sisson: What I found out was most interesting, I found out that the highest accumulation of Langleys was over at Occidental and at Annapolis, as compared to Alexander Valley at Ron Dick's place. And it was just exactly the opposite of what you would expect. For some reason they picked up a higher incidence of radiant heat inspite of that fog. And it just doesn't make any sense.

Simons: This was ridge tops?

Sisson: No, this was just in normal flat areas. The same thing out in Annapolis, we had a difference of between 10 and 18 percent. You should have been able to grow the Cabernets out on the coast. But I really didn't agree with that. So I decided he was talking mostly about annual crops, we've got the ground involved here, where there are seeds...and it might be that he has a good point if you are going to grow asparagus or spinach or something. But I don't think that for grapevines incident solar energy is the way to go. So we went back to using my (theory) how much time we spent at the desired photosynthesis producing energy levels. Altered the degree days and took that into account and we went from there.

Simons: That is interesting that you found out completely the opposite of what you thought you would.

Sisson: You have to do some research in order to answer the questions, and a negative answer is sometimes just as good as a positive answer. Maybe sometimes better.

Simons: You mentioned Annapolis earlier. How do you see the future look out there now?

Sisson: I would say that Annapolis has a future, but it also has some difficulties—there's the transportation problem, of course, the roads out there aren't all that great. But as far as using it there are several thousand acres out there that could be used for grape growing, Coastal cool growing conditions. And there are a couple small vineyards out there, where they are growing Gewürztraminer. And I didn't mention Gewürztraminer when I was talking about all of those other varieties, it is one of my favorite wines, but it suffered like some of the others. It suffered because people couldn't pronounce the name and they didn't want to look foolish in a restaurant.

And that is too bad. It has come along these days in good shape, Annapolis is a good place to grow Gewürztraminer. They are a good solid Coastal cool variety. Not too far inland we have a block of Cabernet that is doing just fine. One of the fellows from Lake County put it in years ago. So the thing about Annapolis that I would say is the most limiting factor is water. It will become its own appellation without a doubt when it does get developed to a degree, but the whole thing is we are dealing with soils that are almost exactly the same as those Goldridge soils out in the Sebastopol apple country. And they are not very deep and they don't hold a whole lot of water. Now when you are out in a Coastal cool area like Annapolis —12-14 inches of seasonal total water is probably enough to get a vine to grow to its genetic capability and be as productive as good management makes sense. But they do need a little help with the water. And there in lies the rub, because we are up above the water out in Annapolis. Most of the water is down below the areas that are going to be of any value as far as grapes are concerned. There is no way of diverting water off from above you because it is going to be intercepted by streams going into the Gualala River. Again it doesn't have to be a problem. But people being people, I can envision that they are going to be reluctant if we were to even suggest it. My position if I was going to be asked would be to create impoundments up at the vineyard level and pump from the nearest tributary creeks at flood stage and store it then. And I can hear the screams now. Official interests and all of these others are going to immediately figure out scores of negative reasons for not doing it. But it can be done to everyone's benefit. With the proper approach maybe everybody can get together and agree on something for a change. That is about the way I see Annapolis, if it is going to happen we are going to have to figure out some accommodations that everybody can agree on before it can really happen to any great extent.

Simons: I don't know if my knowledge of the geography of out there is good enough to...isn't Helen Turley or her vineyard or are they further south towards Cazadero, I know that they are Sonoma Coast area.

Sisson: I'm not sure, I haven't had anything to do with the folks at Annapolis, recently. The ones that were the prime movers that were trying to get me to look the place over and give them some opinions were Cliff Putman and Steve Campbell. Steve had a sawmill and he had flew his own plane and Cliff does whatever he does with his nursery. And then there was Mary Olson's place and I think that a lot of the Olson property went into Sea Ranch. So I don't relate to this name that you are using at all. It is entirely possible that there may be some activity in that area.

Simons: There is somebody that is growing Pinot on the coast out there.

Sisson: That would be one of the ones that you would certainly want to consider.

Simons: And she is getting \$80 to \$100 a bottle for it. And wine writers are falling all over themselves.

Sisson: Pinot noir is definitely climate specific. You say Coastal cool, you mean Coastal cool, you don't mean *almost* Coastal cool. We had some of the guys that just had to try it up in Alexander Valley, and it didn't give them Burgundy, they did *not* get Burgundy that's what Pinot noir is all about. I don't know the climate around Dijon in the Burgundy country on the Rhone...It seemed to me like it was warmer than Cazadero. But the thing about it is one of the varieties that you would be advised (to plant) is Pinot noir. If I was to immediately say, "Okay, I'll come up with four varieties." If you are going to try and play with that Coastal fog country then you are going to say Pinot noir, you are going to say Sauvignon blanc, and you are

going to say Gewürztraminer, and possibly Cabernet franc, and maybe that is asking too much, also. The Pinot noir is the least heat demanding of the real premium reds that I am familiar with.

Simons: I was surprised a little bit when you mentioned earlier the four varieties you did recommend for premiums and Pinot was among them, were you bucking a trend? What I have heard before from the people at the University of California was kinda saying don't plant Pinot, it 's not...

Sisson: I wouldn't follow that line of thinking. I ran into a young lady recently, she called me up, some writer from Sebastopol, she wanted to know how I had arrived at the decision that Pinot noir was going to be such an outstanding variety in the down river climate zone. And I kind of laughed and said, "I hate to spoil your fun but that wasn't why I was interested in getting the Pinot noir down there. I have one mantra that I used continually, that what we want is to have everything in the can by Halloween. I had gotten very sick and tired of pushing a wheelbarrow mounted scale through mud that was axle deep in order to get our research data after the rains started. And I said, "That's got to stop."

Simons: So you were looking for early ripening grapes.

Sisson: I wanted something that would handle, that we could get in by Halloween, knowing that in some years we are going to have to go into November. And we always did but what the heck. That was the rational there. But as far as the Pinot noir's concerned I consider that as an equal with any other world class variety you can name. That Burgundy country has a reputation a mile long.

Simons: It does, but it seems some of the UC publications early on after Prohibition and things like that, they were saying what you should plant and what you shouldn't, were saying (not to plant Pinot)—maybe that was written for the central valley.

Sisson: Maybe it was.

Simons: But they just said that Pinot noir was not something that they liked to see in California.

Sisson: I don't know what the rational would be there. I don't know who would have said it. I've never heard anybody put it down.

Simons: It is just hard to make, it would grow okay but like you were saying in Alexander Valley where they put it in, the wine that came out of it didn't taste like a Burgundy.

Sisson: It is not a Burgundy. It just doesn't behave well if it is subjected to too much heat, or for too long a time. That is the thing too long a time, ten minutes over 80° F that isn't going to hurt it, but ten hours, watch out.

Simons: There goes your subtle favors.

Sisson: It is just the reverse of the Chardonnay where instead of being a bad thing to do it was just a different thing to do. These writers that write that stuff, that one article in *Gourmet* they weren't giving us the Chardonnay accolade for no reason and the guy that did it was evaluating all the way from Carneros, he was going with Bundschu, he was going with my friend the Captain—every now and then I get a blank spot and that bums me out. He was the one

that just lost his deal. He was an Air Force Academy graduate. Think croquet.

Simons: Brice Jones.

Sisson: That is exactly right, Sonoma Cutrer is what I was thinking, because they had Chardonnay planted down there near Bundschu. But most of his stuff is near River Road and the Santa Rosa plains. He got in Milt Sessions' place off River Road. I remember helping him run how deep is deep studies out there. The writing is very candid, that they did, they went up to Cloverdale and it is different, but it is still outstanding and we will take it, when it comes out getting a pat on the back.

There was something in the paper the other day, they were moaning about their problems in the Central Valley and pulling all the grapevines out. Get rid of them, who needs them. They didn't have any business doing it in the first place. But the comment that I thought was interesting was that "Napa and Sonoma have their own little world." And we do. And that is what I said in the second half of my editorial, was that you cannot find this climate just anywhere you can't let anything happen to not use it in this manner (raising premium grapes) and let someone have it for their backyard it would be a hell of a mistake. Pure and simple.

I would like to end this interview with the following comment: The world class wine grape industries of both Sonoma and Napa Counties must be considered vulnerable to being pushed aside by increasing urban pressure and uncontrolled urban and high tech development and the money that they bring with them. Both the people growth and the high tech activity can be controlled by political leadership wise enough to realize that excessive population growth can and will generate costs for local government services

far in excess of their tax revenue generating capabilities. The high tech group regardless of their economic stability or lack of it are prone to leave for any new location that seems to offer them a better deal.

The wine grape industries, on the other hand, are here because of a unique climate overlay that permits the production of world class wine grape varieties and world class premium wines. Other suitable locations are few and far between and exist in only a few similar locations on this planet's surface. The premium varieties we grow here can not be grown successfully just any where. As an instance in addition to the California mid-coast and a little of Oregon and Washington, some acreage in Chile and a few isolated spots in other areas of South America, in addition to the European acreage there is a small amount of premium wine grape climate support in New Zealand, Australia and South Africa. There may also be other small locations, but the acreage is not extensive.

This was not the case with the apples, pears, prunes, hops or any other similar crop. there were no unique growing conditions here for them, it was simply a nice place to grow them. They are also grown quite nicely all over the planet. There is no where else to go and be able to match our unique microclimates for premium wine grapes.

Everyone who has anything to do with the wine grape industry must take every opportunity to counter the political pressures being exerted by those who could care less whether the premium wine grapes being grown here continue to be grown and be protected or whether they disappear to make room for more homes, more people and more problems that seem to associate with high population density. The tax basis associated with the wine grape industry can continue to provide a very considerable tax income indefinitely if the vineyards and wineries are not allowed to be overrun. In

addition, the open space that associates with the vineyards can not be measured in dollars. If it is allowed to be pushed aside it will be lost forever....

-A-

Acaricides, 14, 38,
Agricultural Extension, 11
Alexander Valley, 8, 23, 25, 28, 33, 35, 37,
50, 51, 52, 61, 63, 73, 82, 89, 103, 110,
111, 114
Alexander Valley vineyards
winery, 58
Alicante Bouschet
grapes, 12
Alley, Dr. Curtis, 102
Allied Grape Growers, 43
Almaden
winery, 9
Amerine, Dr. Maynard, 58, 83
Anaheim Disease
Pierce's Disease, 6
Annapolis, 64, 111-113
Aqua Caliente, 55
Armillaria mellea
oak root fungus, 38, 39, 41, 45, 67
Arrowood, Dick, 85
Asti, 93

-B-

Barnes, Dr. Martin, 12, 13
Batholomew, Frank, 17, 105
Beaulieu
winery, 42
Bechold, Siegmund, 18
Belle Terre, 28, 57, 85
Benoit, Jay, 35
Beringer
winery, 35
Bioletti, F. T., 87
Bordeaux Blend, 81
Brix, 28, 34, 88, 90
Buena Vista
winery, 7, 17, 105
Bulk handling, 34, 36
Bundshu, James, 70
Brugundy, 115

-C-

Cabernet Franc, 81, 115
Cabernet Sauvignon
grapes, 17, 23, 28, 36, 63, 64, 79, 80, 81,
82, 83, 93, 94, 103, 107-108, 110-113

California Vine Disease
Pierce's Disease, 6
Calistoga, 70
Campbell, Steve, 114
Carbon bisulfide, 39, 40, 66
Carignane
grapes, 13, 16, 43, 50, 79, 80, 110
Carneros, 62, 105, 116
Chalk Hill, 25
Chardonnay
grapes, 25, 28, 36, 57-58, 64, 73, 75, 80,
82, 85, 93, 94, 108, 110, 116
Chasselas
grapes, 43
Chateau St. Jean
winery, 47, 57, 85-86
Chenin blanc
grapes, 35
Chitsem, Mona, 35
Christian Brothers
winery, 49
Climate, 22, 23, 27, 28, 32, 33, 42, 50, 51,
53 56, 58, 60, 61-65, 79, 102, 103, 104,
108, 110-111, 114, 116, 117
Coastal Cool, 111-113
Coastal Warm, 81, 82, 103
Cloverdale, 8, 32, 39, 61, 104, 111
Colombard
grapes, 23
Cooperative Extension, 11
Cordon
pruning, 23, 27, 110
Cucamonga, 12, 53, 73, 74

-D-

Degree days, 58-59, 60-61
Dick, Henry, 23,
Dick, Ron, 23, 28, 32, 47, 57, 60, 85, 111
Dry Creek Valley, 29, 30, 49, 50, 51, 75, 82,
89, 103, 107, 110
Dutton, Warren, 70

-E-

Erinreum, 10
Eriophyes vitis, 10

-F-

Fan Leaf Virus, 91, 92, 98
Farm Advisers, 6, 11, 12
Fermentation
 temperature controlled, 55, 56
Fletcher, Grant, 45
Foppiano, Louis, 10
Fort Ross, 7
Foundation Plant Material Service, 98
Fountaingrove
 winery, 17
Frei Brothers
 winery, 75
Frei Ranch, 34
Frei
 Andy, 75
 Drew, 75
Frost protection, 15, 31, 68, 70, 71, 72
Frost, Robert, 34
Fumigation, 40, 41, 42, 67, 101-102

-G-

Gallo
 winery 27, 43, 73, 74, 75, 76, 101-102
Gallo
 Ernest, 75-76
 Julio, 73, 74, 101-102
Gauer, Ed, 26
Gewürztraminer,
 grapes 17, 65, 112-113, 115
Geyser Peak,
 winery 25
Geyserville, 75
Glen Ellen, 8, 28, 63
Goldstein
 vineyards, 17
Goode, Dale, 89
Grace, Joseph, 35
Grafting, 89, 100, 101, 102
 Bench, 100, 101, 102
Grand noir
 grapes, 12
Grapes, 6, 8, 9, 12, 13, 14, 17, 19, 23, 25,
 26, 36, 39, 43, 46, 47-50, 56, 57-59, 61,
 64-66, 68, 93, 94, 112, 118
 Alicante Bouschet, 12
 Cabernet Franc, 81, 115
 Cabernet, 17, 23, 28, 36, 63, 64, 79, 80,
 81, 82, 83, 93, 94, 103, 114

Carignane, 13, 16, 43, 50, 79, 80, 110
Chardonnay, 25, 28, 36, 57-58, 64, 73, 75,
80, 82, 85, 93, 94, 108, 110, 116
Chasselas, 43
Chenin blanc, 35
Colombard, 23
Gewürztraminer, 17, 65, 112-113, 115
Grand Noir, 12
Johannesburg Riesling, 82
Malbec, 81
Mataro (aka Mourvedre) 12, 13, 16
Merlot, 81-82, 107-108
Mission, 8
Mourvedre (aka Mataro) 12, 13, 16
organic, 66
Palomino, 43
Petite Sirah, 43
Pinot Noir, 12, 36, 65, 81, 110, 114-115,
116
Premium, 17, 43, 79-80, 84-86, 88, 92, 94,
99, 100, 101, 110, 115, 118
raisin, 35
Salvador, 12
Sauvignon Blanc, 83, 114
Sauvignon Vert, 40
Semillon, 49
table, 35
Thompson seedless, 36
White Riesling, 80
Zinfandel, 12, 16, 29, 73, 74
Grapevine, 6, 7, 14, 86, 97, 106, 112, 117
Graton, 61
Green, Russell, 89
Green Valley, 64
Growers, 12, 14, 17, 19, 22, 23, 29, 37, 40,
42, 43, 49, 50, 52, 68, 73, 75

-H-

Hafner, Richard, 23, 103
Haraszthy, Agoston, 7, 17, 105
Hare, Wess, 105
Harvest Fair, 12
Harwood, Lloyd, 51, 52, 77, 78, 96
Healdsburg, 34, 49, 61, 63, 78, 96
Hemphill, Alan, 85
Hewitt, Professor, 41
Hoskins, Harold, 49

-I-

Inglenook
wineries, 42
Irrigation, 22, 30-32
Italian Swiss (Asti)
wineries, 8, 28, 34, 65

-J-

Jackson, Jesse, 60
Jacob, H. E., 87
Jelton, Vad, 25
Johannesburg Rielsling, 82
Jones, Brice, 64

-K-

Karathane
acaricides, 38
Kasimatis, Amand, 57
Kay, George, 17
Keegan, James, 24
Kenwood, 63
Kinnybrook, 50, 80
Kliwer, W, Mark, 57, 58, 59, 60
Knights Valley, 51,
Korbel
winery, 22, 27, 31, 34, 85
Kreck, Bill, 61
Krug
winery, 42
Kunde, 13, 34, 40, 50, 80
Arthur, Sr. (Big Boy), 13, 46, 80
Bob, 63
Fred, 106
Richard, 46
Vineyard, 105-106

-L-

Lake County, 60, 64, 72
Lider, Jim, 69
Lider, Lloyd, 21, 39, 57
Livermore, 73, 75
Lodi, 60, 73

-M-

Malbec, 81

Martini

Elmo, 8, 34, 35, 43
Louis, 14, 19, 28, 42, 108
winery, 42-43
Mataro (aka Mourvedre) 12, 13, 16
McMurray, Fred, 35
McNamara, Robert, 5
Mendocino County, 44
Meredith, Carole, 88, 95
Merlot, 81-82, 107-108
Methyl bromide, 39
Methyl iodine, 39
Microclimate, 42, 59, 64, 83, 118
Mildew, 19
downy, 19
powdery, 19, 20, 37, 66
Mill Creek
winery, 61
Mission, 8
grape, 8
Mite, 10
Bud, 10, 53, 87, 89, 90, 91, 99-103
Erineum, 9
Pacific, 13, 37
Spider, 37
Williamette, 16
Monte Rosso, 17, 108
Monterey County 9, 23, 63, 82, 83, 103
Mounts, Richard, 34
Mourvedre (aka Mataro) 12, 13, 16

-N-

Napa County, 13, 26, 44, 52, 62, 69, 72, 81,
82, 84, 85, 86, 90, 105
National Distillers, 8
Nematodes, 91, 92
North Coast, 73, 87, 90, 95, 102

-O-

Oak root fungus, 41
Occidental, 111
Odium mildew, 19
Olivet, 19
Olmo, Harold, 87
Olson, Mary
Organic grapes, 66
Osterous, Paul, 73, 74, 101, 102
Over-crop, 28, 56

-P-

Palomino grapes, 43
Paulsen, Pat, 93
Pedroncelli
 winery, 73
Petite Sirah, 43
Petri, 43
Phylloxera, 10, 86-89, 92
Pierce's Disease, 6, 7, 93, 94
 California Vine Disease, 6
Piner Flat, 29
Pinot noir, 12, 36, 65, 81, 110, 114-115, 116
Premium varieties, 17, 43, 79-80, 84-86, 88,
 92, 94, 99, 100, 101, 110, 115, 118
Prohibition, 8, 10
Prunes, 48, 49, 80
Pruning, 13-16, 19, 23, 28, 29, 44-46, 47,
 48, 53, 100, 110
 cane, 53
 condon, 53
 spur, 14, 15, 28, 53, 110
Putman, Cliff, 114

-R-

Raisin 35
Rochioli, Joe, 22-23, 27
Rootstock
 AXR 1, 40, 87-89
 St. George, 40, 87
Round-up, 21, 96-97
Rudee, Helen, 51
Russian River Valley, 50, 75, 82

-S-

Sacramental
 wines, 8
Salvador
 grapes, 12
San Joaquin Valley, 22, 53, 59, 90, 102, 106
Sangiaco, Angelo, 23, 48
Santa Rosa, 19, 51, 61, 82
Sauvignon Blanc, 83, 114
Sauvignon Vert, 43
Sebastiani
 winery, 41
Sebastiani, August, 47-48
Sebastopol, 64

Semillon, 49
Sharpshooter, 93-94
 Blue-Green, 93
 Glassy-Winged, 93-94
Sierra Foothills, 12, 74
Smith Lever Act, 9
Smith, Andy, 1, 2
Soil analysis, 65
Sonoma, 61
Sonoma County, 5, 6, 7, 8, 21, 35, 43, 44,
 48, 50, 52, 56, 60, 61, 62, 71, 73
 60, 82, 85, 87, 90, 114, 117-118
Sonoma Grapevines, 46
Sonoma Mission, 7
Sonoma Valley, 30, 50, 64, 82, 90
Soper, Jim, 64
Spur pruning, 14-15, 23, 28, 53, 110
Strong, Rodney, 55
Sulfur, 19, 31, 37, 65, 66
Swan, Joseph, 24

-T-

Table grapes 35
Taylor, W. A., 8
Tesconi, Tim, 7
Thompson seedless
 grapes, 36
Thunderbird
 wine, 54
Tippet, J. E., 11
Tim, Brother, 49
Tissue analysis, 65, 104, 108
Torres, Marimar, 64
Trione, Henry, 24-25
Turley, Helen, 114

-U-

University of California
 Berkeley, 6, 10-11, 16, 39
 Davis, 5, 10, 46, 55, 57, 59, 84, 87, 88, 90,
 97, 98, 102, 106
 Riverside, 12, 39, 41

-V-

Valley of the Moon, 63, 85, 90
Vapam, 21
Vasconi, Andy, 28
Vegetative Shock, 90

Vines, 6-7, 12-13, 18-22, 22, 27, 28, 29, 31, 32, 34, 37, 38, 46, 56, 57, 89-96, 99-101, 103-104, 105, 106-110, 113
 stressed, 56, 57
 Vinehill Ranch, 64
 Vineyard, 11, 13, 18, 19, 20, 25, 27, 28, 31, 35, 37, 43, 44, 49, 55, 65, 65, 67, 68, 69, 71, 72, 73, 86, 90-92, 93, 96, 98, 99, 100, 101, 103, 104, 108, 109, 113-114
 Belle Terre, 28, 57, 85
 Gallo, 101-102
 Hafner, 103
 Kunde, 105
 Virus, 6, 41, 54, 92, 97-98, 100, 103
 Fan Leaf, 41, 54, 91, 92, 98
 Leaf Roll, 54, 91, 92, 98
 Unfruitful Carignane, 54
 Yellow Mosaic, 6, 54

-W-

Walter, Bob, 18
 Warm Springs, 51, 52, 61, 75, 78-79
 Water management, 18, 25, 104
 Webb, Brad, 55
 Webb, Denny, 55
 Westoby, John, 39
 Westside, 34, 49
 White Riesling, 80
 White Oak
 vineyard, 43
 Windsor, 73
 Wine, 8, 17, 34, 35, 36, 43, 44, 54, 55, 56, 57, 68, 74, 80, 81, 82, 84, 115, 116, 118
 Burgundy, 114
 Chardonnay, 85
 jug, 17, 43
 Sacramental, 8
 Thunderbird, 54
 White Zinfandel, 74
 Zinfandel, 74
 Wineries, 8, 17, 22, 25, 26, 27, 31, 34, 35, 41, 42, 43, 46, 55, 56, 58, 61, 73-76, 85, 105-106, 118
 Alexander Valley Vineyards, 58
 Allied Grape Growers, 43
 Almaden, 8
 Beaulieu, 42
 Beringer, 42
 Buena Vista, 8, 17, 105

Chateau St. Jean, 47, 57, 85
 Christian Brothers, 49
 Fountaingrove, 17
 Frei Brothers, 75
 Gallo, 27, 43, 73-76, 101-102
 Geyser Peak, 25
 Inglenook, 42
 Korbel, 22, 27, 31, 34, 85
 Krug, 42
 Martini, Louis, winery 42-43
 Mill Creek, 61
 Pedroncelli, 73
 Sebastiani, 41
 Sonoma-Cutrer, 117
 Winkler, Dr. A. J., 13, 15, 20-21, 54, 55, 58, 48, 83

-X-

Xylella fastidiosa
 bacteria, 7

-Y-

Young, Robert, 23, 26, 32, 45, 46, 47, 48, 70, 80, 85, 86, 89

-Z-

Zellerback, Stephen 55, 107
 Zinfandel
 grapes, 12, 16, 29, 73, 74
 white, 12

